MATHEMATICS FOR PRIMARY FOUR FIRST TERM

2027

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

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UNIT
1

Theme 1 | Number Sense and Operations

Unit 1
Place Value

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Concept (1): Reinforcing Place Value

Lesson (1) Big Numbers

	PERIOD			PERIOD			PERIOD		
MILLIARDS	MILLIONS			THOUSANDS			ONES		
O	H	T	O	H	T	O	H	T	O
6	2	0	8	1	9	6	3	1	8
6 milliard	208 million			196 thousand			318		

Match the cards that have the same numeral.

a.	43,509,458	1.	4 milliard, 103 million, 905 thousand, 484
b.	403,590,548	2.	four million, nine hundred fifty thousand, eight hundred fifty-four
c.	4,103,905,484	3.	forty-three million, five hundred nine thousand, four hundred fifty-eight
d.	4,950,854	4.	403 million, 590 thousand, 548

Read the following numbers:

5,200,005	30,645,214	720,003,200
600,247,004	42,320,218	9,040,000
4,600,001	5,234,100	60,001,240
9,321,400,050	1,004,021,016	4,000,200,000
7,000,000,009	3,010,040,500	8,001,023,008
2,501,200,020	6,030,010,012	5,200,000,402

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Lesson (2) Changing Values

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	2	2	2	2	2	2
2 × 1,000,000	2 × 100,000	2 × 10,000	2 × 1,000	2 × 100	2 × 10	2 × 1
2,000,000	200,000	20,000	2,000	200	20	2

Find the value of the underlined digit.

2. 7̲03,890 _____ **3.** 63,5̲40 _____ **4.** 1̲82,034 _____ **5.** 34̲5,890 _____

Find the value of the underlined digit.

8. 2̲30,001 _____ **9.** 80̲3,040 _____ **10.** 46,84̲2 _____ **11.** 9̲80,650 _____

Complete:

a. 56,000 = _____ thousands.

b. 280,000 = _____ hundreds.

c. 25,600 tens = _____ thousands.

d. 300 thousands = _____ hundreds.

e. 55 thousands = _____ hundreds.

f. 850 thousands = _____ hundreds.

g. 72,000 tens = _____ thousands.

h. 87,900,000 hundreds = _____ millions.

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Homework

Complete the following table:

Numbers	Milliards	Millions			Thousands			Ones		
	O	H	T	O	H	T	O	H	T	O
5 406 548 987										
3 589 021 479										
	5	4	6	3	9	8	7	1	5	9
	1	6	4	7	8	5	2	0	8	2

Complete:

(1) 5,326,548,987 = ... billion, ... million, ... thousand & .....

(2) 2,163,900,800 = ... billion, ... million, ... thousand & .....

(3) 4,132,876,514 = ... billion, ... million, ... thousand & .....

(4) 7,325,165,273 = ... billion, ... million, ... thousand & .....

(5) 5,153,276,542 = ... billion, ... million, ... thousand & .....

(6) 5,180,070,506 = ... billion, ... million, ... thousand & .....

(7) 6,537,002,054 = ... billion, ... million, ... thousand & .....

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Write the value and the place value of the red digit:

The number	The value	The place value
4,325,526,412	……	……
8,523,256,412	……	……
2,732,154,546	……	……
5,124,652,487	……	……
1,541,656,218	……	……
9,148,562,487	……	……
4,562,732,154	……	……

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Lesson (3) Many Forms to Write Numbers

1. **Write each number in standard form.**
   a. 5,000,000,000 + 70,000 + 1,000 + 40 + 9 _____
   b. Fifty-eight million, thirty-seven thousand, forteen. _____
2. Write the word form of the number 3,300,030,303
   _____
   _____
3. Write the expanded form of the number 7,608,490
   _____

Complete the following.

a. 700,005,009 = seven hundred _____, five _____, nine.

b. 4,030,400,050 = _____ milliard, _____ million, _____ thousand, _____

c. 417,900,770 = _____ seventeen million, nine hundred _____, _____ seventy.

d. 2,100,080,005 = _____ milliard, one _____, eighty _____, five.

Choose the correct answer.

1. What is the standard form for 3,000,000 + 500,000 + 50 ?
   A. 355 B. 3,500,500
   C. 3,500,050 D. 3,005,005

2. Which of the following shows the numeral "five milliard, four hundred twenty-six thousand" in standard form ?
   A. 5,000,426 B. 5,426,000
   C. 5,000,426,000 D. 5,426,000,000

3. Which of the following represents the number 4,305,082 written in expanded form ?
   A. 4,000,000 + 300,000 + 50,000 + 800 + 2
   B. 4,000,000 + 300,000 + 50,000 + 80 + 2
   C. 4,000,000 + 30,000 + 5,000 + 800 + 2
   D. 4,000,000 + 300,000 + 5,000 + 80 + 2

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Complete the table:

	Standard Form	Expanded Form
1	565	
2		4000 + 700 + 6
3	2,345,222,197	
4		6,000,000 + 200,000 + 30,000 + 7,000 + 900 + 50 + 8
5	2,305,031	

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Lesson (4) Composing and Decomposing

Composed 345,532

Decomposed (3 x 100,000) + (4 x 10,000) + (5 x 1,000) + (5 x 100) + (3 x 10) + (2 x 1)

Milliards	Millions			Thousands			Ones		
O	H	T	O	H	T	O	H	T	O
				3	4	5	5	3	2

1. **Composed** 6,124,030,420

Decomposed _____

Milliards	Millions			Thousands			Ones		
O	H	T	O	H	T	O	H	T	O

2. **Composed** _____

Decomposed _____

Milliards	Millions			Thousands			Ones		
O	H	T	O	H	T	O	H	T	O
5	4	0	0	1	5	9	0	2	4

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Form the greatest and the smallest number:

4 0 1 8 3 7 6 5 2 9

The greatest number: .....

The Smallest number: .....

4 5 1 9 3 7 6 5 2

The greatest number: .....

The Smallest number: .....

0 1 8 3 7 6 5 2 4

The greatest number: .....

The Smallest number: .....

4 1 0 3 7 6 5 2

The greatest number: .....

The Smallest number: .....

1 8 5 1 6 0 2 9

The greatest number: .....

The Smallest number: .....

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Homework

3. **Composed** _____

Decomposed (7 x 1,000,000,000) + (5 x 10,000,000) + (4 x 10,000) + (3 x 1,000) + (5 x 100) + (9 x 1)

Milliards	Millions			Thousands			Ones		
O	H	T	O	H	T	O	H	T	O

Composed : _

Decomposed : [7 × 10,000] + [8 × 1,000] + [5 × 100] + [2 × 10] + [6 × 1]

MILLIARDS	MILLIONS			THOUSANDS			ONES		
O	H	T	O	H	T	O	H	T	O

Composed : _____

Decomposed : _____

MILLIARDS	MILLIONS			THOUSANDS			ONES		
O	H	T	O	H	T	O	H	T	O
3	2	0	9	5	0	0	7	0	8

Composed : 7,052,318,709

Decomposed : _____

MILLIARDS	MILLIONS			THOUSANDS			ONES		
O	H	T	O	H	T	O	H	T	O

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Use the digits 3, 5, 7, 8, 8, 1, 6, 2 to make the greatest number you can.
Then use the same digits to make the smallest number you can.

What is the value of the following?

A. 9 in the Tens place? _____

B. 3 in the Hundreds place? _____

C. 60 Tens? _____

D. 80 Thousands? _____

Choose the correct answer:

1. What is the standard form for $3,000,000 + 500,000 + 50$?

A. 355 B. 3,500,500
C. 3,500,050 D. 3,005,005

2. Which of the following shows the numeral "five milliard, four hundred twenty-six thousand" in standard form ?

A. 5,000,426 B. 5,426,000
C. 5,000,426,000 D. 5,426,000,000

3. Which of the following represents the number 4,305,082 written in expanded form ?

A. $4,000,000 + 300,000 + 50,000 + 800 + 2$
B. $4,000,000 + 300,000 + 50,000 + 80 + 2$
C. $4,000,000 + 30,000 + 5,000 + 800 + 2$
D. $4,000,000 + 300,000 + 5,000 + 80 + 2$

4. Which is the correct way to write the numeral 25,702 in word form ?

A. twenty-five, seven hundred two.
B. twenty-five thousand, seven hundred two.
C. twenty-five ten thousand, seven hundred two.
D. twenty-five thousand, seventy-two.

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Concept (2): Using Place Value

Lesson (5) **Comparing Big Numbers**
Lesson (6) **Comparing Numbers in Multiple Forms**

Complete:

(1) The smallest 7-digit number is .....

(2) The smallest 9-digit number is .....

(3) The smallest different 8-digit number is .....

(4) The smallest different 10-digit number is .....

(5) The greatest 6-digit number is .....

(6) The greatest 12-digit number is .....

(7) The greatest different 7-digit number is .....

(8) The greatest different 8-digit number is .....

Complete using (<) , (>) or (=):

14,780,064		14,790,064
5,103,492,500		Five milliard, three hundred million, seven hundred fifteen thousand, forty-three
(7×100,000,000) + (4×10,000,000) + (9×10,000) + (8×10) + (1×10)		70,000 + 9,000 + 600 + 40 + 3
8,040,761,903		8,000,000,000 + 400,000,000 + 700,000 + 60,000 + 1,000 + 900 + 3

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Lesson (7) Descending and Ascending Numbers

1. List Omar's data in ascending order:

78,090 79,010 78,091 79,100 78,999

_____; _____; _____; _____; _____

2. List Mariam's data in descending order. You may use word or standard form.

- three milliard, ten million, one thousand, thirty-four
- three milliard, one million, three hundred twenty-three thousand, three hundred ninety-one
- three milliard, nine hundred ninety thousand, nine hundred ninety-two
- three milliard, one hundred ten million, ninety-nine thousand, four hundred ninety-three

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3. List the numbers in ascending order. Use the form in which they are given.

- four milliard, six hundred thousand, four
- 461,014
- four milliard six hundred thousand forty
- (4 x 1,000,000,000) + (4 x 100,000) + (6 x 10)
- 6,400,042

Write the numbers in an ascending order:

a. 7,122,890 , 700,122,089 , 70,122,098 , 7,120,980

The order is : _____ , _____ , _____ , _____

b. 3,452,805 , 3,542,805 , 542,905 , 1,000,000,000

The order is : _____ , _____ , _____ , _____

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Homework

Compare the numbers below and circle the greater number in each row:

23,410	22,999
111,223	101,345
4,890	4,891

Write the numbers in an ascending order:

a. 8,092,561 , 9,208,111 , 7,534,786 , 8,650,336

The order is : _____ , _____ , _____ , _____

b. 1,282,756 , 3,012,427 , 988,423 , 3,105,338

The order is : _____ , _____ , _____ , _____

c. 430,000,459 , 43,000,549 , 403,000,456 , 430,549,000

The order is : _____ , _____ , _____ ,

Write the numbers in a descending order:

a. 450,321 , 504,321 , 321,405 , 342,150 , 540,312

The order is : _____ , _____ , _____ , _____ , _____

b. 6,562,942,735 , 6,942,735 , 6,562,942,375 , 6,942,537

The order is : , _____ , _____ , _____

c. 4,237,651 , 4,273,653 , 495,627 , 4,237,690

The order is : , , _____ , _____

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Lesson (8) Rounding Rules

Rounding means replacing the exact number
by another simpler number, near to the exact number.

[1] Round each of the following to the nearest 1000:

126,237	≅	.....	36,873	≅	.....
33,500	≅	.....	19,254	≅	.....
821,799	≅	.....	49,500	≅	.....
2,231,274	≅	.....	233,695	≅	.....

[2] Round each of the following to the nearest 10,000:

15,000	≅	.....	52,600	≅	.....
78,000	≅	.....	92,000	≅	.....
456,450	≅	.....	69,224	≅	.....
45,274	≅	.....	88,695	≅	.....

[3] Round each of the following to the nearest 100,000:

250,000	≅	.....	275,600	≅	.....
878,000	≅	.....	990,000	≅	.....
456,450	≅	.....	469,224	≅	.....
645,274	≅	.....	988,695	≅	.....

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[4] Round each of the following to the nearest 1,000,000:

3,250,000	≅	23,275,600	≅ .....
7,878,000	≅	4,990,000	≅ .....
10,456,450	≅	45,469,224	≅ .....
65,645,274	≅	123,988,695	≅ .....

[5] Round each of the following to the nearest 1,000,000,000:

2,323,250,000	≅	6,223,275,600	≅ .....
8,247,878,000	≅	7,504,990,000	≅ .....
4,010,456,450	≅	6,045,469,224	≅ .....
5,665,645,274	≅	2,123,988,695	≅ .....

[8] Choose the correct answer:

a) 17085 ≅ 17000 to the nearest..... (10 , 100 , 1000)

b) 8453 ≅ 8500 to the nearest..... (10 , 100 , 1000)

c) 75643.1 ≅ 75600 to the nearest..... (10 , 100 , 1000)

d) 3725.6 ≅ 3730 to the nearest..... (10 , 100 , 1000)

Round to the place value of the underlined digit.

2. 934,567	3. 641,267	4. 234,890	5. 347,456
6. 562,408	7. 284,792	8. 199,814	9. 923,718

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Homework

Round the numbers to the nearest Ten.

a. 423 ≈ _____ b. 549 ≈ _____ c. 495 ≈ _____ d. 1,287 ≈ _____

Round the numbers to the nearest Hundred.

a. 874 ≈ _____ b. 416 ≈ _____ c. 4,398 ≈ _____ d. 1,952 ≈ _____

Round the numbers to the nearest Thousand.

a. 8,090 ≈ _____ b. 234,432 ≈ _____

c. 9,900 ≈ _____ d. 7,578 ≈ _____

Round the numbers to the nearest Ten Thousand.

a. 37,205 ≈ _____ b. 58,936 ≈ _____

c. 290,290 ≈ _____ d. 7,435,026,353 ≈ _____

Round the numbers to the nearest Hundred Thousand.

a. 483,267 ≈ _____ b. 678,090 ≈ _____

c. 449,300 ≈ _____ d. 12,786,500 ≈ _____

Complete.

a. 3,446 ≈ _____ [to the nearest Thousand]

b. 56,621 ≈ _____ [to the nearest Thousand]

c. The number 543,186 to the nearest Thousand is _____

d. The number 163,518,943 to the nearest Million is _____

e. 34,279 ≈ _____ [to the nearest Ten Thousand]

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Unit (1) Assessment

[1] Choose the correct answer:

(1) The value of the digit 6 in the number 61,974 is .....

a 6 b 600 c 6,000 d 60,000

(2) 476,651 = ... (using front-end estimation)

a 40,000 b 400,000 c 500,000 d 476,000

(3) (6×1,000,000) + (5×100,000) + (3×1,000) + (2×100) = ...

a 6,503,200 b 6,305,200 c 3,605,200 d 2,305,600

(4) 6,749,001,551 ≃ ..... (to the nearest milliard)

a 6,000,000,000 b 7,000,000,000 c 7,600,000,000 d 6,700,000,000

(5) The place value of the digit 7 in the number 17,315,120 is .....

a thousands
b hundred thousands
c ten millions
d millions

(6) 1 milliard, 235 million, 127 = ... (in the standard form)

a 1,235,000,127 b 1,272,351 c 1,235,127,000 d 1,235,127

(7) Four hundred sixty-five thousand, nine hundred eighteen 4,000,000

a < b > c = d otherwise

[2] Complete:

(1) 200 tens = ... hundreds.

(2) Decompose: 6,030,200 = ...

(3) The smallest number can be formed from the digits: 1, 5, 3, 0, 6 is .....

(4) 46,651 ≃ ..... (to the nearest thousand)

[3] Find:

(1) Arrange the following numbers from least to greatest:
82,937 – 218,476 – 273,105 – 27,382
.....

(2) Expand: 407,020,003
.....

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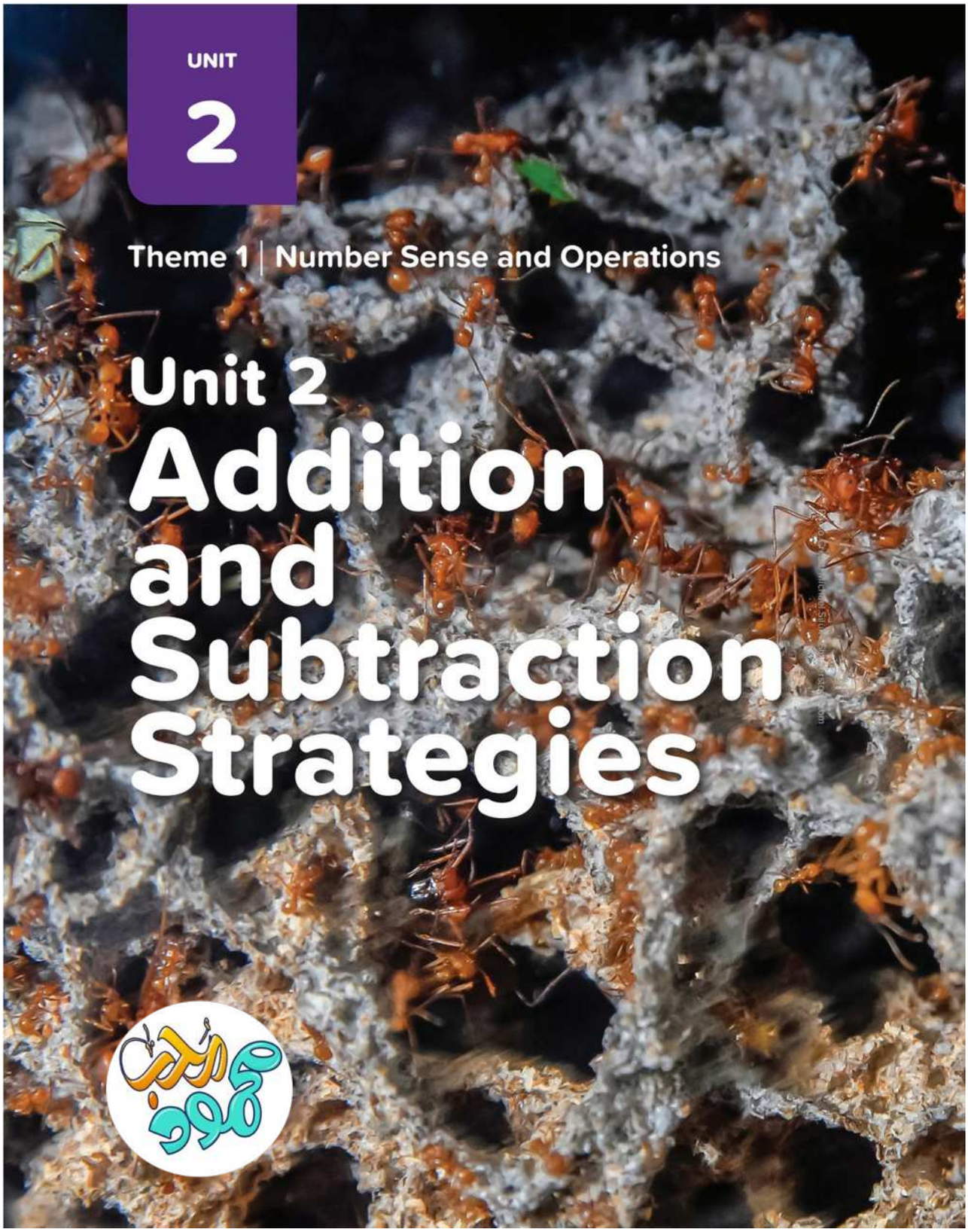

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Concept (1)
Using Addition & Subtraction Strategies

Lesson (1) Properties of Addition

Additive Identity Property Solve the following problems.

2,345 + 0	0 + 12,567,109

Commutative Property Solve the following problems.

5 + 7 + 8 + 3	8 + 7 + 3 + 5	7 + 5 + 8 + 3	3 + 7 + 8 + 5

Associative Property Solve the following problems. Remember to solve what is in the parentheses first.

(10 + 4) + 20 + 17	10 + (4 + 20) + 17	10 + 4 + (20 + 17)

Complete the following.

a. 42 + ——— = 18 + 42

b. 255 + ——— = 255

c. [14 + 16] + 37 = 14 + [16 + ———]

d. 17 + 23 = 23 + 17 is ——— property.

e. [136 + 13] + 37 = 136 + [13 + 37] is ——— property.

f. 968 + 0 = 0 + 968 = 968 is ——— property.

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Choose the correct property.

a. $(12 + 8) + 7 = 12 + (8 + 7)$ [Additive identity - Commutative - Associative]

b. $25 + 75 = 75 + 25$ [Additive identity - Commutative - Associative]

c. $(45 + 5) + 10 = 45 + (5 + 10)$ [Additive identity - Commutative - Associative]

d. $13 + 0 = 13$ [Additive identity - Commutative - Associative]

e. $26 + 10 + 34 = 26 + 34 + 10$ [Additive Identity - Commutative - Associative]

Complete.

a. $5 + 9 = 9 +$ ———

b. $(61 + 23) + 24 =$ ——— $+ (23 + 24)$

c. $854 + 0 =$ ———

d. $359 + 12 = 12 + 359$ is called ——— property.

e. The additive identity element is ———

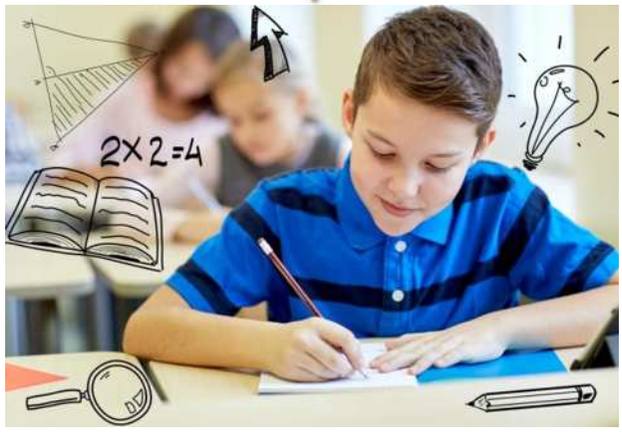
Use the properties of addition to solve each problem.

a. $15 + 18 + 12$ _____

_____

b. $41 + 36 + 19$ _____

_____



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Homework

1. $13 + 0 = 13$, is _____ property.

A. assocciative
B. commutative
C. additive identity
D. none of the above

2. $19 + 36 = 36 + 19$, is _____ property.

A. commutative
B. additive identity
C. associative
D. otherwise

3. $[15 + 19] + 20 = 15 + [19 + 20]$, is _____ property.

A. additive identity
B. commutative
C. distributive
D. associative

4. The additive identity element is _____

A. 3
B. 2
C. 0
D. 1

5. $25 + 24 = 24 +$ _____

A. 24
B. 25
C. 99
D. 100

6. $352 + [556 + 421] = [352 +$ _____ $] + 421$

A. 352
B. 556
C. 421
D. 782

7. $[222 + 111] + 333 = 222 + [111 +$ _____ $]$

A. 888
B. 111
C. 333
D. 666

8. Which of the following represents the commutative property in addition ?

A. $635 + 492 = 492 + 635$
B. $0 + 847 = 847$
C. $[18 + 2] + 16 = 36$
D. $1 + 131 = 132$

9. Which equation would be best to include in an explanation of the commutative property of addition ?

A. $8 + 0 = 8$
B. $7 + 8 = 8 + 7$
C. $3 + 18 = 3 + 11 + 7$
D. $5 + 8 = 3 + 10$

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Lesson (2) Adding with Regrouping

Find the result:

a	3 7 8 5 4 2 1 + 2 1 0 2 3 4	b	4 8 9 1 2 4 3 + 3 1 0 2 3 1 5	c	6 5 8 8 7 6 + 6 7 3 4 5 3 8
d	6 5 4 3 0 0 0 + 4 2 4 2 7 8 8	e	7 0 0 8 1 9 8 + 8 1 9 4 8 5	f	8 0 0 0 0 0 0 + 3 5 1 4 6 7 9

Estimate using rounding to the nearest Hundred. Find the exact answer.

a. 726 + 89 → ___ + ___ → ___ + ___ = ___

b. 134 + 588 → ___ + ___ → ___ + ___ = ___

c. 34,762 + 21,384 → ___ + ___ → ___ + ___ = ___

Estimate using rounding to the nearest Thousand. Find the exact answer.

a. 3,355 + 809 → ___ + ___ → ___ + ___ = ___

b. 26,721 + 45,398 → ___ + ___ → ___ + ___ = ___

c. 85,632 + 1,168 → ___ + ___ → ___ + ___ = ___

Lesson (3) Subtraction with Regrouping

Solve the following problems using the standard subtraction algorithm. Then, round each number to the nearest Ten, Hundred Thousand or Ten Thousand to check the reasonableness of your answers.

a. 4,271 – 1,834

b. 52,329 – 31,255

c. 608,452 – 109,786

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A trap jaw ant wanted to cross a river that was 3,548 cm across. The ant had already swum 1,672 cm. How much farther does the ant have to go?

A fire ant colony 255,000 ants. A *Gigantiops destructor* ant colony has 6,200. What is the difference between the size of the two colonies?

Two colonies of fire ants were stuck in a flood and made floating rafts to survive. The first colony had approximately 1,267 ants and the second had 3,452 ants. How many more ants were in the second colony?

Write the missing digits.

a.

	□	3	□	7
−	5	□	7	□
	3	0	2	4

b.

	□	3	6	4
−	1	2	□	5
	1	□	3	□

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Homework

Estimate using rounding to the nearest Ten. Find the exact answer.

a. 19 + 32 → ____ + ____ → ____ + ____ = ____

b. 351 + 286 → ____ + ____ → ____ + ____ = ____

c. 1,578 + 4,121 → ____ + ____ → ____ + ____ = ____

Use the standard subtraction algorithm to solve the problems. Then, round each number to the nearest Thousand to check the reasonableness of your answer.

a. 9,263 − 3,842 → ____ − ____ → ____ − ____ = ____

b. 6,625 − 4,417 → ____ − ____ → ____ − ____ = ____

c. 1,816 − 1,066 → ____ − ____ → ____ − ____ = ____

d. 25,884 − 18,875 → ____ − ____ → ____ − ____ = ____

A fire ant colony has 255,000 ants. A Gigantiops destructor ant colony has 6,200 ants.
What is the difference between the size of the two colonies ?

_____

_____

If 273 ships passed through the Suez Canal in January and 375 ships crossed in February. Find the total sum of ships in the two months.

_____

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21,405 + 84,083	75,900 + 99,029	87,768 + 83,615	92,232 + 36,415	93,737 + 31,742
20,047 + 23,039	51,175 + 84,596	92,406 + 18,102	42,748 + 97,664	29,190 + 41,956
11,504 + 52,734	19,688 + 31,728	90,254 + 70,710	96,194 + 74,212	38,383 + 70,184

108 − 102	742 − 727	673 − 338	743 − 655	855 − 252
799 − 237	866 − 810	917 − 207	232 − 179	444 − 240
792 − 573	772 − 735	509 − 234	735 − 577	837 − 320

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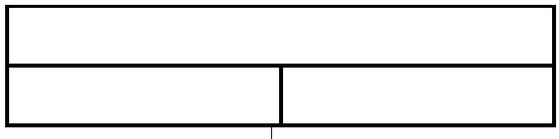
Concept (2): Solving Multistep Problems

Lesson (4) Bar Models, Variables, and Story Problems

There are 5,328 ants in the colony. In the colony, 2,164 ants are females and the rest are males. How many male ants are in the colony?

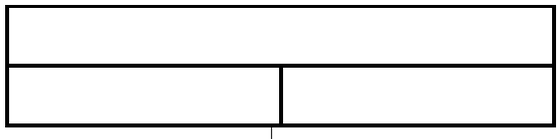
Bar Model:



Equation **Solution**

There are 20,000 ants in the colony. In the colony, 12,000 are females and the rest are males. How many male ants are in the colony?

Bar Model:



Equation **Solution**

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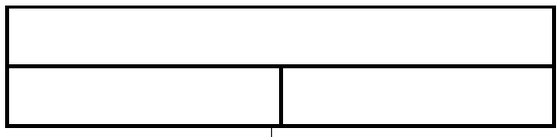
In colony A there are 1,200 ants. Some ants are out foraging for food and supplies, and 700 ants are taking out the colony's trash. How many ants are foraging for food and supplies?

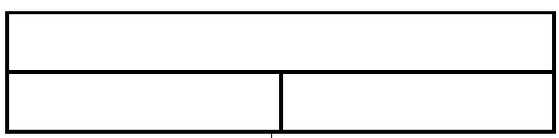
Bar Model:



Equation **Solution**

There are 12,000 species of ants. Of these 12,000 species, 2,500 species live in Africa and the rest live in other parts of the world. How many species do not live in Africa?

Bar Model:



Equation **Solution**

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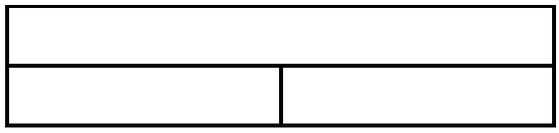
$14{,}000 - n = 6{,}000$

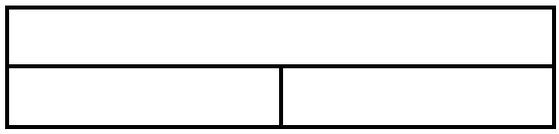
Bar Model:



Solution

$b - 53{,}500 = 75{,}200$

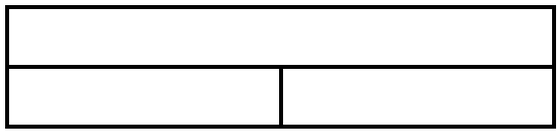
Bar Model:



Solution

$725{,}625 + c = 935{,}075$

Bar Model:



Solution

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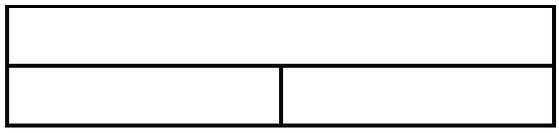
$13,280 - d = 5,420$

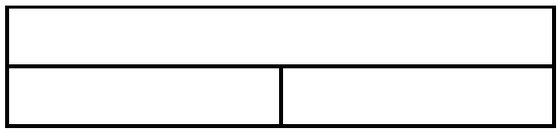
Bar Model:



Solution:

$e + 205,925 = 810,775$

Bar Model:



Solution:

Lesson (5) Solving Multistep Story Problems with Addition and Subtraction

The Great Pyramid had 59,000 visitors in January, 27,525 visitors in February, and 32,975 visitors in March. They expect to have 150,000 visitors by the end of April. How many visitors need to show up in April to reach this count?

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New Valley has a population of 256,088. If Matrouh has a population of 429,999 and South Sinai has a population of 108,951, how many more people do Matrouh and South Sinai have combined than New Valley?

The Nile River is approximately 6,650 kilometers long. Kareem and his family travel the Nile River from one end to the other end. If they travel 1,075 kilometers in January, then 1,120 kilometers in February, and then 1,325 kilometers in March, how many more kilometers do they still need to travel to reach the other end?

Aswan has a population of 1,575,914. If Luxor has a population of 1,333,309 and Red Sea has a population of 383,796, how many more people do Luxor and Red Sea have combined than Aswan?

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Homework

Solving equations with variables. Create a bar model to solve each of the following problems.

a. 14,000 – n = 6,000

Bar model :

Solution : _____

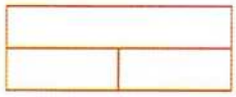
b. m – 35,462 = 2,741

Bar model :

Solution : _____

c. b – 53,500 = 75,200

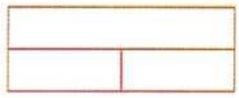
Bar model :



Solution : _____

d. 4,641 + y = 7,548

Bar model :



Solution : _____

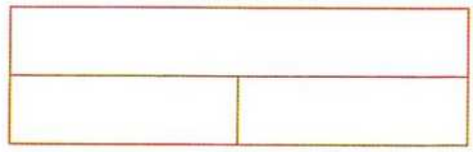
By using a bar model , write the equation, then find the solution.

a. The number of boys and girls in a school is 2,340 , the number of boys in this school is 1,234 What is the number of girls in this school ?

Equation : _____

Solution : _____

Bar model

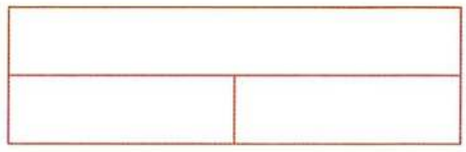


b. There are 12,000 species of ants. Of these 12,000 species , 2,500 species live in Africa and the rest live in other parts of the world. How many species do not live in Africa ?

Equation : _____

Solution : _____

Bar model



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Unit (2) Assessment

[1] Choose the correct answer:

(1) A bakery sold 1,232 loaves in one day, if it sold 876 loaves in the morning. How many loaves did it sell at the evening? .....

a 356 b 1,588 c 520 d 2,108

(2) Which estimation is reasonable for 816 – 257 ? .....

a 810 – 260 = 550
b 820 – 260 = 560
c 800 – 250 = 550
d 820 – 250 = 570

(3) The additive identity element is .....

a 0 b 1 c 2 d 3

(4) Ahmed bought 16 cookies, he ate 4 pieces and 12 have left. If A refers to the total number of cookies, then which of the following is true? .....

a A = 4 + 12 b 12 – A = 4 c A + 12 = 4 d A + 4 = 12

(5) 34 + 56 = 56 + 34 is called ..... property

a commutative
b associative
c additive-identity
d otherwise

[2] Complete:

(1) If H – 1,590 = 3,410, then H = ...

(2) 3,156 + 5,667 = ...

(3) 102,007 – 456 = ...

(4) 6,542 = ... + 6,542 and is called ..... property.

(5) In the opposite bar model, Y = ...

7,620	
Y	4,310

[3] Find:

(1) Ola has 1,200 minutes as a balance of her mobile, she used 700 minutes. Find the left minutes in her balance.

.....

(2) There are 142 ants in the 1st bridge and 165 ants in the 2nd bridge. How many ants in the two bridges in all?

.....

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UNIT
3

Theme 1 | Number Sense and Operations

Unit 3
Concepts of Measurement

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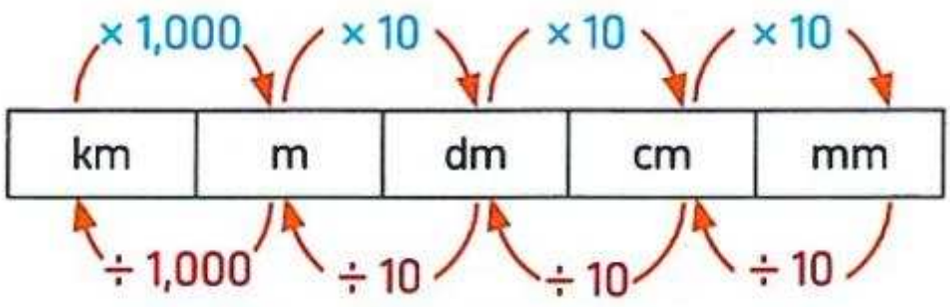
Concept (1): Metric Measurements

Lesson (1) Measuring Length



Circle the best unit to measure each length.

1. Height of a student
   Kilometer Meter Centimeter Millimeter
2. Distance between home and school
   Kilometer Meter Centimeter Millimeter
3. Length of the Nile River
   Kilometer Meter Centimeter Millimeter
4. Length of an ant
   Kilometer Meter Centimeter Millimeter
5. Distance from Cairo to Alexandria
   Kilometer Meter Centimeter Millimeter

Fill in blanks.

a. 8 m = _____ cm
b. 700 cm = _____ m
c. 130 mm = _____ cm
d. 15,000 m = _____ km
e. 5 km = _____ cm
f. 8 km = _____ dm

Complete each of the following.

a. 7 m , 56 cm = _____ cm
b. 9 cm , 5 mm = _____ mm
c. 12 km , 12 m = _____ m
d. 4 m , 16 dm = _____ dm

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Convert the lengths into the units on the bar models.

a.

845 cm	
——— m	——— cm

b.

29,603 m	
——— km	——— m

Find the missing numbers.

a.

230 cm	
—— m	—— cm

b.

478 cm	
—— m	—— cm

c.

85 cm	
—— dm	—— cm

d.

——— m	
3 km	40 m

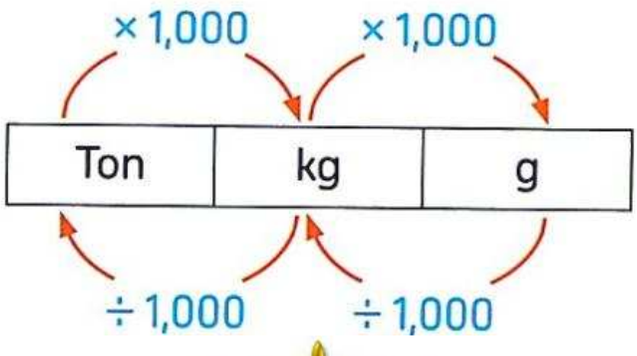
e.

——— cm	
5 m	91 cm

f.

——— mm	
7 cm	5 mm

Lesson (2) Measuring Mass



Convert the masses into the units on the bar models.

a.

1,560 g	
——— kg	——— g

b.

27,027 g	
——— kg	——— g

c.

5,555 kg	
——— tons	——— kg

d.

——— kg	
2 tons	2 kg

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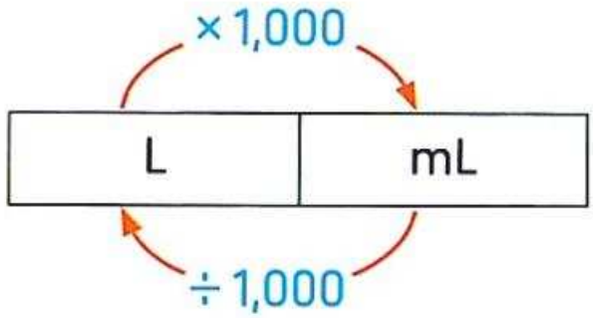
Lesson (3) Units of Capacity



Find each missing number.

a. 8 Liters = _____ milliliters.

b. 56,000 mL = _____ L

c.

47,665 mL	
_____ L	_____ mL

d. 13 L , 13 mL = _____ mL

Find each missing number.

a.

6,360 mL	
____ L	____ mL

b.

9,425 mL	
____ L	____ mL

c.

____ mL	
8 L	910 mL

d.

____ mL	
2 L	250 mL

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Homework

Choose the correct answer:

1. _____ is a measuring unit of mass.

A. km B. Liter
C. Hour D. kg

2. 2 kg = _____ gm

A. 20,000 B. 2,000
C. 200 D. 20

3. 10 kilograms = _____ grams

A. 10 B. 100
C. 1,000 D. 10,000

4. 15 kg = _____ gm

A. 150 B. 1,500
C. 15,000 D. 15

Choose the correct answer:

1. The best unit to measure the capacity of a bottle of oil is _____

A. meter B. liter
C. mm D. km

2. 3 liters = _____ milliliters

A. 3 B. 30
C. 300 D. 3,000

3. 23 liters = _____ milliliters

A. 23,000 B. 2,300
C. 230 D. 32,000

4. 13 L , 30 mL = _____ mL

A. 43 B. 3,013
C. 1,330 D. 13,030

Compare. Write (> , < or =).

a. 95 kg ◯ 950 g

c. 400 g ◯ 400 kg

e. 6 kg , 6 g ◯ 660 g

b. 3 kg ◯ 30,000 g

d. 2 ton ◯ 2,000 kg

f. 2 kg , 530 g ◯ 24,000 g

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Choose the correct answer:

1. The best unit to measure the length of an ant is ———

A. meter B. liter
C. mm D. km

2. 4 km = ——— m

A. 40 B. 400
C. 4,000 D. 4

3. 10 meters = ——— centimeters

A. 10 B. 100
C. 1,000 D. 1

4. 5,000 mm = ——— m

A. 5 B. 50
C. 500 D. 50,000

5. 62 dm = ——— cm

A. 62 B. 620
C. 6,200 D. 62,000

6. 3,000 cm = ——— m

A. 100 B. 30
C. 3 D. 300

Find each missing number.

a.

4,590 g	
—— kg	—— g

b.

8,400 g	
—— kg	—— g

c.

—— g	
7 kg	414 g

d.

—— kg	
2 ton	30 kg

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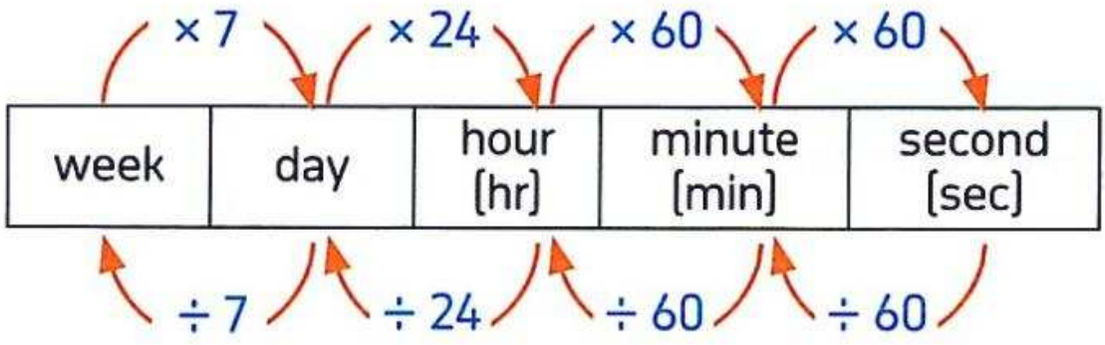
Concept (2): Measuring Time

Lesson (4) Units of Time



Complete.

a. 6 weeks = _____ days
b. 13 weeks = _____ days
c. 5 days = _____ hours
d. 8 hours = _____ minutes
e. 9 minutes = _____ seconds
f. 75 minutes = _____ hours, _____ minutes

Find the missing numbers.

a. 4 weeks , 2 days = _____ days.
b. 5 days , 5 hours = _____ hours.
c. 3 hours , 20 minutes = _____ minutes.
d. 2 minutes , 30 seconds = _____ seconds.

Fill in the blanks.

a. 5 hours , 10 minutes = _____ minutes.
b. 3 days , 10 hours = _____ hours.
c. 4 minutes , 11 seconds = _____ seconds.
d. 2 weeks , 2 days = _____ days.

Calculate.

a. 3 : 15 + 6 : 20 = _____
b. 5 : 37 + 50 minutes = _____
c. 7 : 35 – 40 minutes = _____

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Write the time in two ways.

a.

_____ : _____

It's _____

b.

_____ : _____

It's _____

c.

_____ : _____

It's _____

Lesson (5) Elapsed Time

Answer the following.

a. Mona's birthday party started at 7 : 00 in the evening. It took around 2 hours and 40 minutes for the party to get over. What is the time at which the party got over ?

_____

_____

_____

b. Farah was training for a marathon. Her goal was to run for 1 hour and 30 minutes. If she started running at 8:35 A.M. , what time did she finish running ?

_____

_____

_____

c. The train was scheduled to arrive at 5 : 10 P.M. However, it was delayed for 57 minutes. What time was it when the train arrived ?

_____

_____

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Lesson (6) Applications of Measurement

Sameh has 63 m of ribbon. If he cuts 56 m, 21 cm ribbon from it, what length of ribbon will be left ?

Rania is measuring two ant lines. Colony A's ant line is 30 centimeters long, and Colony B's ant line is 500 millimeters long. How many centimeters long are the two ant lines together ?

An ant from Colony A walked 2 kilometers in a day. An ant from Colony B walked 3,000 meters in a day. Which ant walked the farthest and how much farther in kilometers did it walk ?

Taher grew 10 centimeters in 1 year. He is now 1 meter, 6 centimeters tall. How many centimeters tall was Taher 1 year ago ?

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Homework

Solve. Show your work.

1. 3:45 + 25 min = _____
2. 2:45 + 6:17 = _____
3. 3:07 – 42 min = _____
4. 5:07 – 2:13 = _____

5. An ant's first nap of the day began at 7:45 a.m. and lasted for 60 seconds. What time did the ant wake up?

6. The ant then worked in the colony for 3 hours and 13 minutes before its next nap. What time did the ant take his second nap?

Write the time.

a.

_____ : _____

b.

_____ : _____

c.

_____ : _____

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Bast's school day is 5 hours long. How can she find how long the school day is in minutes?

A. multiply 5 by 60

B. add 5 and 60

C. multiply 5 by 24

D. add 5 and 24

Bakari is going on a trip for 2 full days. How could he figure out how many hours he will be away?

A. add 2 and 24

B. multiply 2 by 24

C. add 2 and 60

D. multiply 2 by 60

Taher grew 10 centimeters in 1 year. He is now 1 meter 6 centimeters tall. How many centimeters tall was Taher 1 year ago?

An ant from Colony A walked 2 kilometers in a day. An ant from Colony B walked 3,000 meters in a day. Which ant walked the farthest and how much farther in kilometers did it walk?

Ali's cat weighs 7 kilograms and his dog weighs 17 kilograms. When Ali took them to the vet, he learned that his cat gained 450 grams and his dog gained 120 grams. How much do his two pets weigh in all now?

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Unit (3) Assessment

[1] Choose the correct answer:

(1) 423 cm = ... m, ... cm

a 3m, 42cm b 42m, 3cm c 4m, 23cm d 23m, 4cm

(2) 1 day and 5 hours = ... hours

a 29 b 65 c 15 d 24

(3) A can of juice of capacity 1 L and 500 ml = ... ml

a 5,100 b 1,500 c 1,005 d 15,000

(4) 20 kg and 30 gm = ... gm

a 2,300 b 2,030 c 20,030 d 500

(5) To convert from Liter to Milliliter we .....

a multiply by 100 c divide by 100

b multiply by 1,000 d divide by 1,000

(6) Nadia spends 7 hours at school, if we want to convert it to minutes, we .....

a add 7 to 60 c multiply 7 by 60

b add 7 to 24 d multiply 7 by 24

[2] Complete:

(1) 3 minutes and 20 seconds = ... seconds.

(2) 5 kg – 3,000 gm = ... gm.

(3) 45 Liters = ... milliliters.

(4) 27 km and 55 m = ... m.

(5) 3 : 10 + 2 : 18 = ...

[3] Find:

(1) Arrange from least to greatest:
8 m – 8 km – 8,000 cm – 8 mm .....

(2) Basma bought 2 liters of milk, she drank 1,200 milliliters. How much milk was left in milliliters?
.....

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UNIT
4

Theme 1 | Number Sense and Operations

Unit 4
Area and Perimeter

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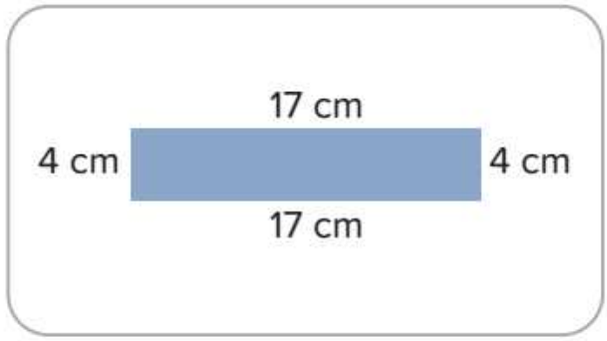
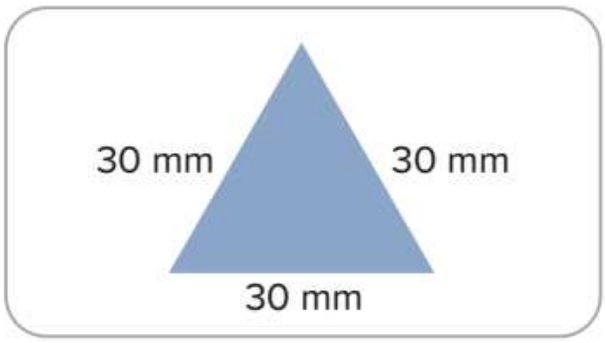
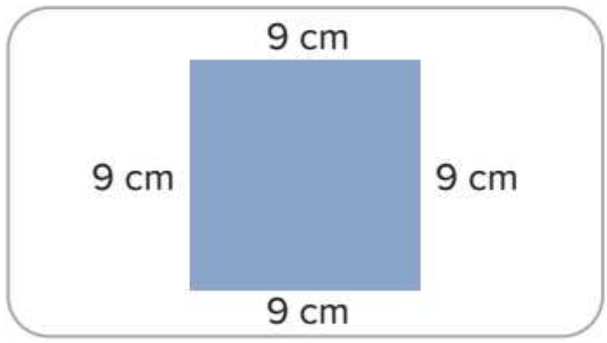
Concept (1): Explore Area and Perimeter

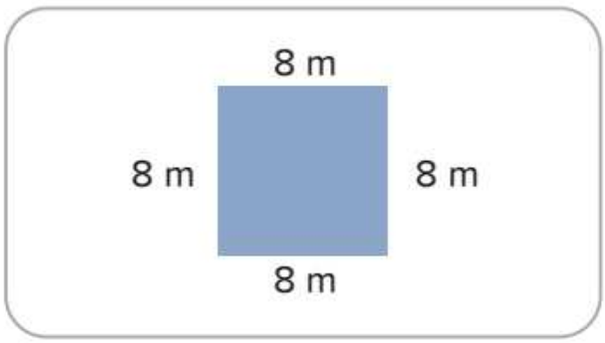
Lesson (1) Finding Perimeter

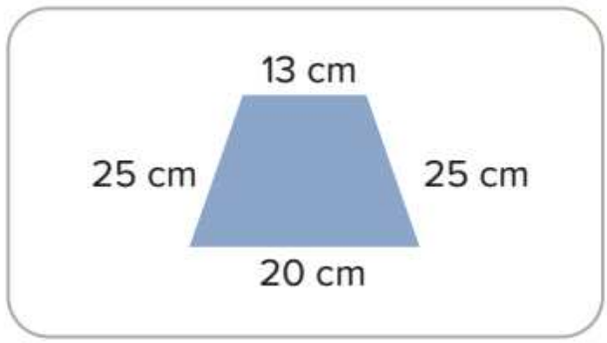
Rectangle Review Compare the shapes in the boxes. Highlight or circle all of the rectangles and place a star on the squares.

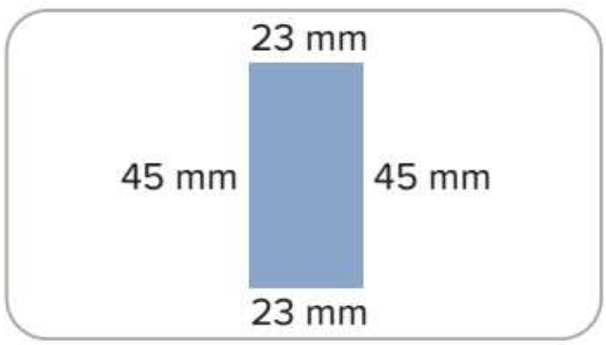












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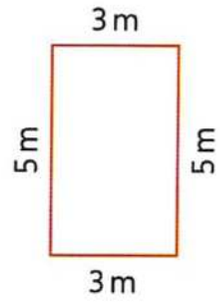
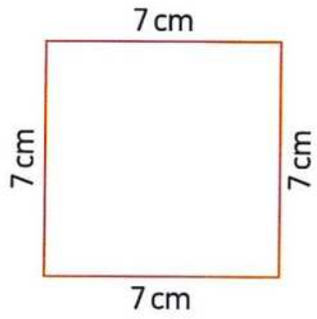
Calculate the perimeters of the following shapes. Use different formulas to solve each problem.

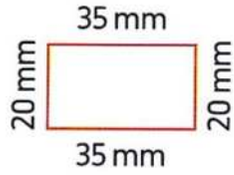
a.



b.

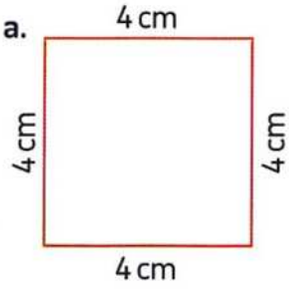


c.

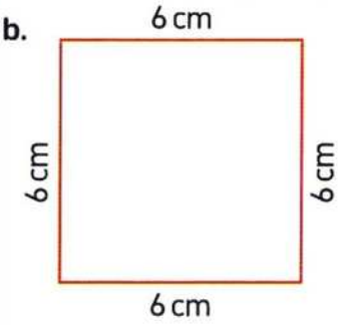


Find the perimeter of each of the following shapes.

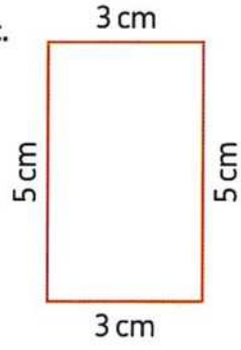
a.



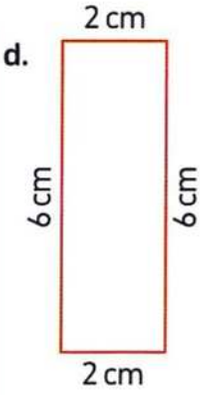
b.



c.



d.



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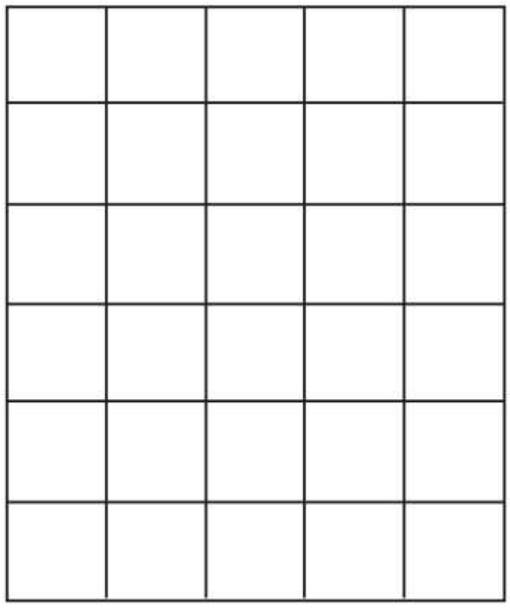
Lesson (2) Finding Area

Area Review Determine the area of the rectangles. Show your work.

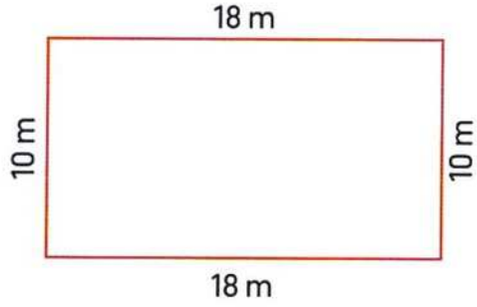
1.



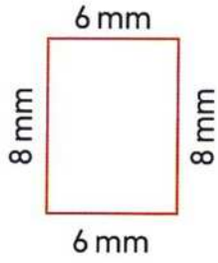
Area = _____

Find the area of each of the following.

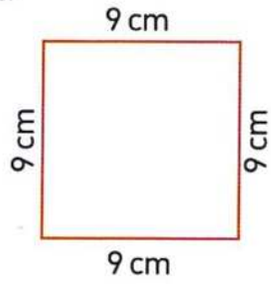
a.



b.



c.



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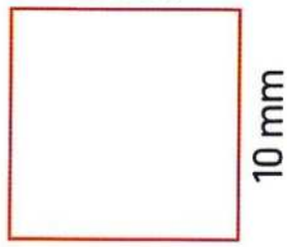
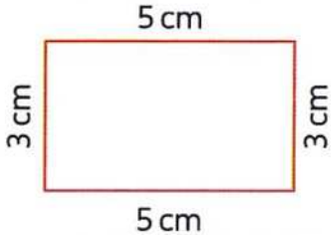
Find the area and perimeter of each figure.

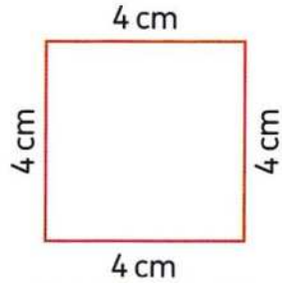
a.

b.



Circle the shape that has greater area.





For a science project, two students are creating an ant farm enclosure. Their enclosure will be 5 meters long and 2 meters wide. Sketch the enclosure and label the dimensions. Then, find the perimeter and area.

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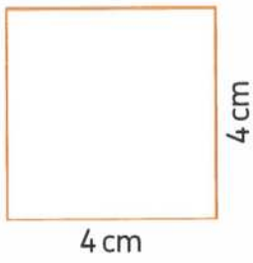
Homework

Which of the figures below have the same perimeter ?

a.

b.

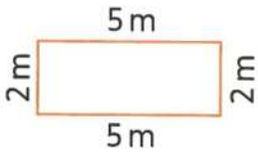
c.



d.

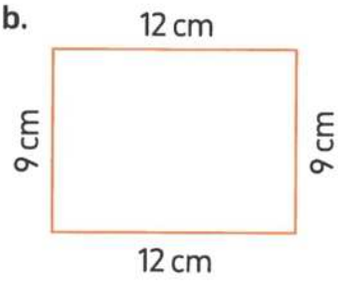
Use the formula P = l + w + l + w to calculate the perimeters of the following rectangles.

a.



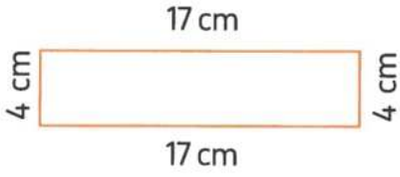
P = _____

b.



P = _____

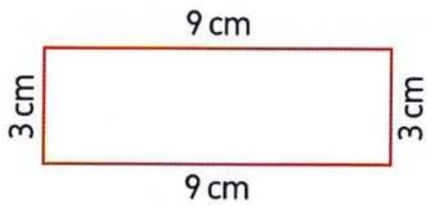
c.



P = _____

Write the formula of the area of each rectangle or square, then find its area.

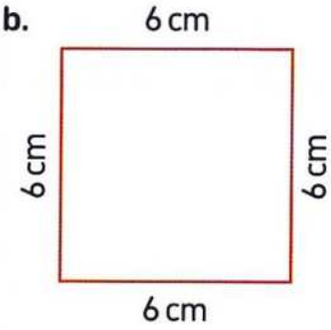
a.



_____

_____

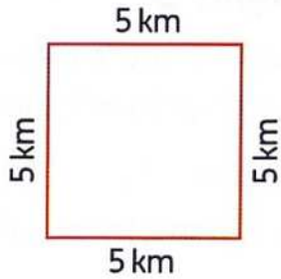
b.



_____

_____

c.



_____

_____

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Sherif has a garden in squared shape with side length 5 meters.
What is the area of this garden ?

A square picture of side length 8 cm. Hussein wants to cut a piece of glass to cover this picture, what is the area of the glass piece?

A square-shaped room has a side length 3 meters. What is the area of the ground of the room in square meters ?

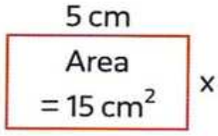
Lesson (3) Unknown Dimensions

In a rectangle	
l = length , w = width , P = perimeter , A = area	
$A = l \times w$	$P = 2 \times [l + w]$
• $l = A \div w$	• $l = [P \div 2] - w$
• $w = A \div l$	• $w = [P \div 2] - l$

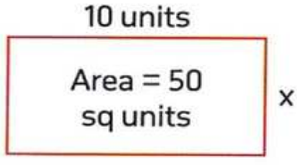
In a square	
s = side length , P = perimeter , A = area	
$A = s \times s$	$P = s \times 4$
s is a number if multiplied by itself gives the area.	$s = P \div 4$

Find the unknown side length based on the area given of each rectangle.

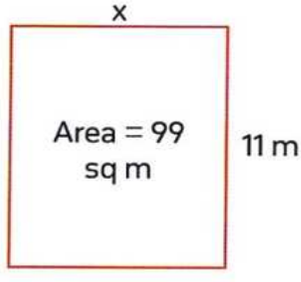
a.



b.



c.



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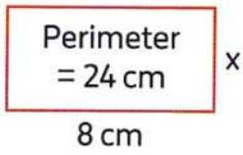
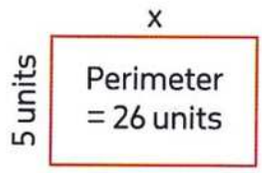
Find the unknown side length based on the perimeter given of each rectangle.

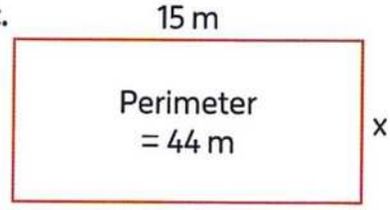
a.



b.

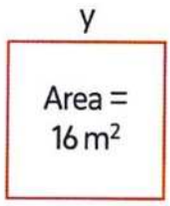


c.

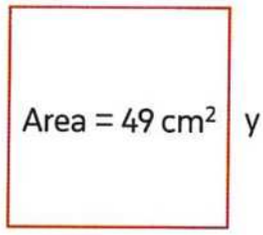


Find the unknown side length based on the area given of each square.

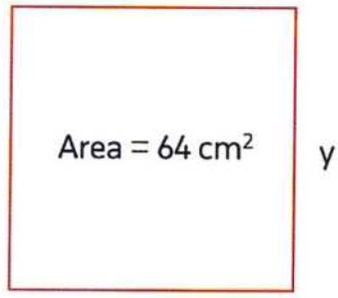
a.



b.

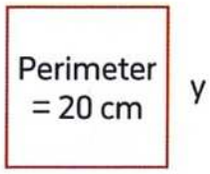


c.

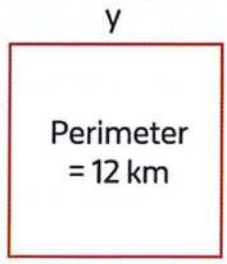


Find the unknown side length based on the perimeter given of each square.

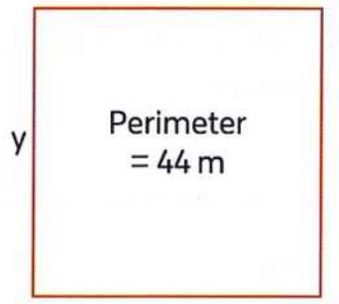
a.



b.



c.



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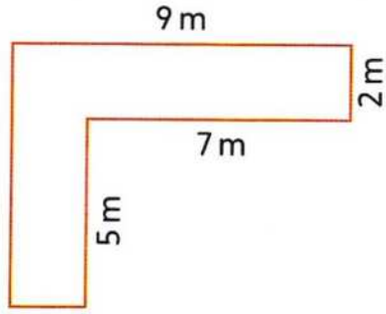
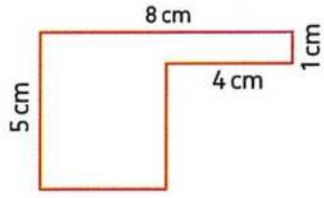
Lesson (4) Complex Shapes

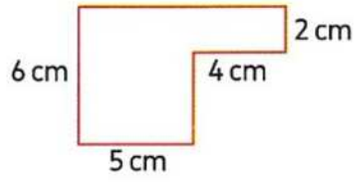
Find the perimeter and the area of the complex figure.



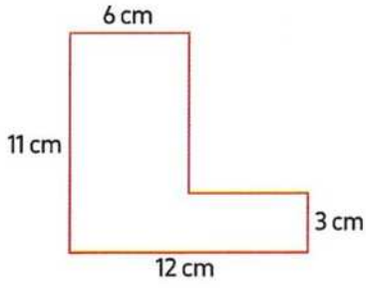
Find the area of the opposite figure.



Find the area of the opposite figure.



Find the area and perimeter.



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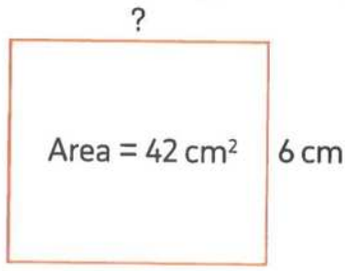
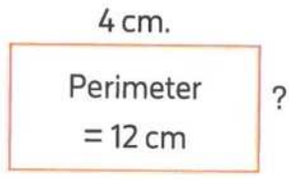
Homework

▶ **Find the unknown length in each of the following rectangles of squares.**

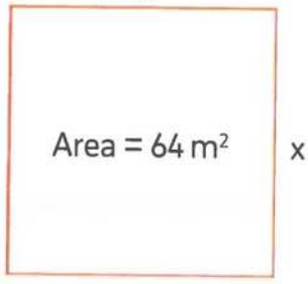
a.



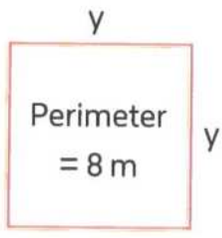
b.



c.



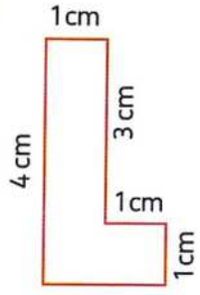
d.



Choose the correct answer.

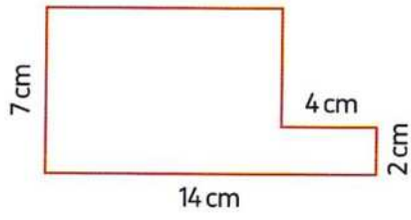
1. What is the perimeter of the figure ?

A. 10 cm
B. 12 cm
C. 13 cm
D. 15 cm



2. What is the area of the figure ?

A. 24 cm²
B. 42 cm²
C. 78 cm²
D. 87 cm²



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Choose the correct answer:

1	The perimeter of a square = ... A) L X L B) L X 4 C) L X W D) (L+W) X 2
2	The area of a square = ... A) L X L B) L X 4 C) L X W D) (L+W) X 2
3	The perimeter of a rectangle = ... A) L X L B) L X 4 C) L X W D) (L+W) X 2
4	The area of a rectangle = ... A) L X L B) L X 4 C) L X W D) (L+W) X 2
5	The perimeter of a square of side length is 3 cm = ... cm A) 12 B) 20 C) 16 D) 28
6	The perimeter of a square of side length is 5 cm = ... cm A) 12 B) 20 C) 16 D) 28
7	The perimeter of a square of side length is 4 cm = ... cm A) 12 B) 20 C) 16 D) 28
8	The perimeter of a square of side length is 7 cm = ... cm A) 12 B) 20 C) 16 D) 28
9	The area of a square of side length is 3 cm = ... A) 9 cm B) 9 cm^2 C) 12 cm^2 D) 12 cm
10	The area of a square of side length is 4 cm = ... cm^2 A) 8 B) 16 C) 36 D) 81
11	The area of a square of side length is 5 cm = ... A) 25 cm B) 25 cm^2 C) 20 cm^2 D) 20 cm
12	The area of a square of side length is 6 cm = ... cm^2 A) 36 B) 24 C) 60 D) 12
13	The side length of a square of perimeter is 24 cm = ... cm A) 9 B) 4 C) 5 D) 6
14	The side length of a square of perimeter is 36 cm = ... cm A) 9 B) 4 C) 5 D) 7

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Unit (4) Assessment

[1] Choose the correct answer:

(1) A square of side length S, its perimeter = ...

a S + 4 b S ÷ 4 c S × 4 d S × S

(2) If the perimeter of a rectangle 20 cm, its width 4 cm. Its length = ... cm

a 4 b 5 c 10 d 6

(3) A rectangle of dimensions 20 cm and 10 cm, its area = ... cm^2.

a 10 + 20 × 2 b 10 + 20 c 60 d 200

(4) A rectangle whose length is L and width is W, its area = ...

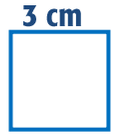
a (2 × L) + W b L × W c (L + W) × 2 d L + W

[2] Complete:

(1) The area of the opposite rectangle = ... cm^2.

(2) A rectangle of dimensions 20 cm and 10 cm, its perimeter = ... cm.

(3) The perimeter of the opposite square = ... cm.



[3] Find:

(1) Find the area and perimeter of the opposite figure:

.....

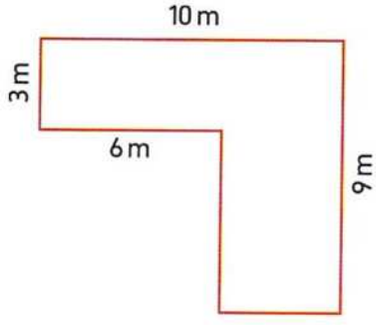
.....

.....

.....

.....

.....



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UNIT
5

Theme 2 | Mathematical Operations and Algebraic Thinking

Unit 5 Multiplication as a Relationship

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Concept (1): Multiplicative Comparisons

Lesson (1) Understanding Multiplicative Comparison

1. Compare 10 and 2. 10 is _____ times greater than 2.
2. Compare 12 and 3. 12 is _____ times greater than 3.
3. Compare 18 and 6. 18 is _____ times greater than 6.

Rewrite each equation using multiplication.

1. 6 + 6 + 6 = 18 _____
2. 2 + 2 + 2 + 2 + 2 + 2 + 2 = 14 _____

Fill in the blanks to complete the multiplicative comparison statement for each tape diagram.

3.

5	5	5	5

_____ is _____ times greater than 5.

4.

8	8	8

_____ is _____ times greater than 8.

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Complete the multiplicative comparison statements. Use tape diagram or multiplication facts to compare.

a. Compare 15 and 5. 15 is _____ times the number 5.

b. Compare 50 and 10. 50 is _____ times the number 10.

Fill in the blanks to complete the multiplicative comparison statement for each tape diagram.

a.

8	8	8	8	8	8

_____ is _____ times the number 8.

b.

5	5	5	5	5	5	5	5

_____ is _____ times the number 5.

Complete the table. Write a comparison statement or a multiplication equation.

Comparison Statement	Multiplication Equation
21 days is 3 times as many as 7 days	
	$36 = 9 \times 4$
30 fish is 5 times as many as 6 fish.	

Lesson (2) Creating Multiplicative Comparison Equations

Multiplying to Show Comparisons Write an equation based on the comparison statement. Use a letter to represent the unknown number. You do not have to solve the equations.

1. 4 times greater than 3 is _____
2. 18 is 6 times as many as _____
3. 2 times greater than 7 is _____
4. 24 is 4 times as great as _____
5. 25 is 5 times as many as _____

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Lesson (3) Solving Multiplicative Comparison Equations

Use tape diagram or multiplication facts to compare the numbers.

a. Compare 15 and 3. 15 is _____ times the number 3.

b. Compare 28 and 7. 28 is _____ times the number 7.

c. Compare 27 and 9. 27 is _____ times the number 9.

d. Compare 10 and 2. 10 is _____ times the number 2.

Solve each of the following equations.

a. $x = 3 \times 6$

b. $14 = 7 \times n$

c. $6 \times y = 24$

Write an equation to represent the situation below, and then solve.

Farmer Wael has 20 sheep. He has twice the number of sheep as farmer Sameh.
What is the number of sheep of farmer Sameh ?

Homework

1. Compare 15 and 3. 15 is _____ times greater than 3.
2. Compare 28 and 7. 28 is _____ times greater than 7.
3. Compare 27 and 9. 27 is _____ times greater than 9.

Write an equation for each of the following comparisons and then solve it.

a. What number is 3 times the number 7 ?

b. 24 is 4 times a number. What is this number ?

c. 12 is 3 times a number. What is this number ?

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Rewrite each equation using multiplication.

a. $6+6+6=18$ _____

b. $2+2+2+2+2+2+2=14$ _____

c. $5+5+5+5+5=25$ _____

d. $2+2+2+2=8$ _____

e. $9+9+9+9=36$ _____

Write an equation based on the comparison statement. Use a letter to represent the unknown number. You do not have to solve the equations.

a. 7 times the number 2 is _____

b. 2 times the number 7 is _____

c. 18 is 6 times as many as _____

d. 4 times the number 3 is _____

e. 24 is 4 times as many as _____

f. 25 is 5 times as many as _____

g. 30 is 5 times as many as _____

Choose the correct answer.

1. If $n \times 3 = 18$, then $n =$ _____

A. 4 B. 3
C. 5 D. 6

2. If $6 \times b = 42$, then $b =$ _____

A. 8 B. 5
C. 6 D. 7

3. If $8 \times M = 40$, then $M =$ _____

A. 6 B. 5
C. 10 D. 12

4. If $A \times 12 = 36$, then $A =$ _____

A. 2 B. 3
C. 4 D. 5

5. What number is 10 times the number 13 ?

A. 130 B. 3
C. 23 D. 1,300

6. There are 4 bicycles on a road, and 14 times as many cars as bicycles. How many cars are on the road ?

A. 46 B. 14
C. 56 D. 18

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Concept (2)
Properties and Patterns of Multiplication

Lesson (4) Commutative Property of Multiplication

Arrays and the Commutative Property

Array Equation 1: 2 x 4 = _____ x _____

Array Equation 2: 3 x 7 = _____ x _____

Array Equation 3: 5 x 9 = _____ x _____

Array Equation 4: 6 x 8 = _____ x _____

Array Equation 5: 1 x 3 = _____ x _____

Apply the Commutative Property of Multiplication to complete each equation.

1. 5 x 7 = _____ x 5

2. 20 x _____ = 6 x 20

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Lesson (5) Identity property and the Zero Property of Multiplication

Mental Math Number Talk Look at the problems below. Solve them mentally (without writing anything down).

1. 5 x 1
2. 12 x 1
3. 672 x 1
4. 8 x 0
5. 16 x 0
6. 758 x 0

Complete:

a. $6 \times 10 =$ _____ | b. $2 \times 100 =$ _____ | c. $7 \times 1{,}000 =$ _____

d. $21 \times 10 =$ _____ | e. $50 \times 10 =$ _____ | f. $80 \times 100 =$ _____

g. $90 = 9 \times$ _____ | h. $170 =$ _____ $\times 17$ | i. _____ $\times 1{,}000 = 50{,}000$

Complete:

a. $8 \times 10 =$ _____ | b. $100 \times 5 =$ _____ | c. $3 \times 1{,}000 =$ _____

d. _____ $= 1{,}000 \times 2$ | e. $700 = 7 \times$ _____ | f. $9 \times$ _____ $= 9{,}000$

g. $19{,}000 =$ _____ $\times 19$ | h. _____ $\times 245 = 24{,}500$ | i. $123 \times 100 =$ _____

Complete each of the following.

a. $3 \times 8 =$ _____ $\times 3$ | b. $10 \times$ _____ $= 7 \times 10$

c. _____ $\times 5 = 5 \times 9$ | d. $2 \times 11 = 11 \times$ _____

e. $15 \times 1 =$ _____ | f. $5 \times 0 =$ _____

g. $170 \times$ _____ $= 0$ | h. _____ $\times 350 = 350$

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Lesson (6) Associative Property of Multiplication

Use the associative property to complete:

a. $[6 \times 2] \times 5 = 6 \times [\square \times 5]$

b. $[20 \times \square] \times 10 = 20 \times [15 \times 10]$

c. $7 \times [5 \times 2] = [7 \times \square] \times 2$

d. $315 \times [16 \times 120] = [\square \times \square] \times 120$

Use the associative property to find each product:

a. $[4 \times 2] \times 6 =$ _____

b. $5 \times [5 \times 2] =$ _____

c. $8 \times 5 \times 2 =$ _____

d. $3 \times 2 \times 8 =$ _____

Lesson (7) Applying Patterns in Multiplication

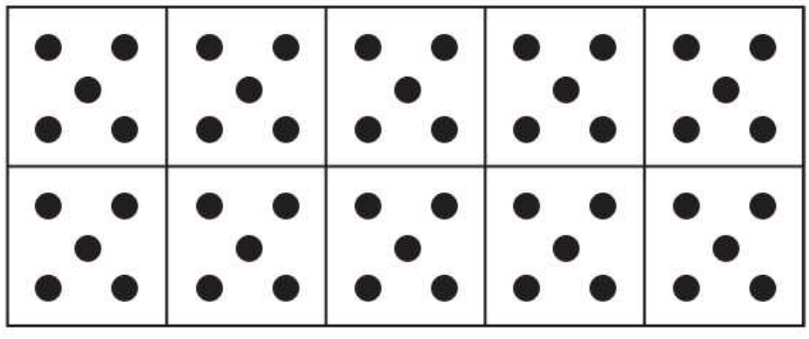
Use decomposing and associative property to find each product:

a. $4 \times 40 =$ _____

b. $5 \times 500 =$ _____

c. $2 \times 8{,}000 =$ _____

Dot Card Number Talk Look at the image. How many dots do you see in the image below? How did you come up with your answer?



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Solve each problem. Multiply the part in the parentheses first.
Show your work.

1. (2 x 3) x 4 = _____
2. (5 x 2) x 3 = _____
3. 2 x (3 x 4) = _____
4. 5 x (2 x 3) = _____

Write how many Tens make up each number.

7. 30 = _____ Tens
8. 80 = _____ Tens
9. 160 = _____ Tens
10. 140 = _____ Tens
11. 120 = _____ Tens
12. 110 = _____ Tens

Decompose each multiple of 10, 100, or 1,000 before multiplying.
Draw parentheses around the numbers you would multiply first,
and then write the answer.

1. 5 x 70 = _____
2. 8 x 30 = _____
3. 4 x 40 = _____

Solve using a strategy you prefer.

4. 6 x 90 =

_____

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Homework

Complete:

a. $3 \times 8 =$ _____ $\times 3$

b. $10 \times$ _____ $= 7 \times 10$

c. _____ $\times 5 = 5 \times 9$

d. $2 \times 11 = 11 \times$ _____

e. $15 \times 1 =$ _____

f. $5 \times 0 =$ _____

Find the missing number. Name the property you used.

a. $\square \times 1 = 12$ [_____]

b. $9 \times \square = 0$ [_____]

c. $5 \times 6 = \square \times 5$ [_____]

d. $\square \times 500 = 0$ [_____]

Apply the Commutative Property of Multiplication to find the unknown value.

a. $33 \times 4 = 4 \times a$ _____

b. $b \times 9 = 9 \times 8$ _____

c. $a \times 7 = 7 \times 8$ _____

d. $5 \times 9 = 9 \times b$ _____

e. $16 \times a = 7 \times 16$ _____

f. $5 \times 93 = b \times 5$ _____

Write the missing number:

a. $[8 \times 4] \times 2 = 8 \times [\quad \times 2]$

b. $5 \times [10 \times 2] = [5 \times \quad] \times 2$

c. $2 \times [6 \times 5] = [2 \times 6] \times$

d. $[3 \times 9] \times 5 = \quad \times [9 \times 5]$

Place parentheses to show one way to find the product. Then, show one other way to use parentheses to find the product.

5. $5 \times 4 \times 2$

_____

6. $3 \times 6 \times 2$

_____

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Unit (5) Assessment

[1] Choose the correct answer:

(1) The multiplicative identity element is .....

a 0 b 1 c 2 d 3

(2) Which of the following represents the commutative property of multiplication?

a $5 \times 16 = (5 \times 11) + (5 \times 5)$ c $3 \times 1 = 3$

b $(6 \times 2) \times 4 = 6 \times (2 \times 4)$ d $6 \times 9 = 9 \times 6$

(3) $50 \times 1{,}000 =$ .....

a 5,000 b 500 c 50,000 d 50

(4) The numerical expression that represents: 3 times greater than 8 is 24 is .....

a $3 \times 8 = 24$ b $24 \times 8 = 3$ c $8 \times 8 = 24$ d $3 \times 24 = 8$

(5) If $a \times 31 = 31 \times 9$, then a = ...

a 40 b 31 c 1 d 9

(6) $(2 \times 3) \times 4 =$ .....

a 243 b 64 c $(2 + 3) \times 4$ d $2 \times (3 \times 4)$

(7) 6 times greater than 5 = ...

a 56 b 15 c 30 d 24

[2] Complete:

(1) 9 times greater than 3 = ...

(2) $35 \times 0 =$ ..... and called ..... property

(3) If $k = 7 \times 5$, then k = ...

(4) $5 \times 7 \times 2 =$ .....

(5) $(5 \times 3) \times 7 = 5 \times (..... \times 7)$

[3] Find:

(1) Ahmed read 5 books. Mohamed read 3 times more than Ahmed. Find the number of books that Mohamed read? .....

(2) Kareem has 9 pens, Ali has 27 pens. Ali is how many times more than Kareem?
.....

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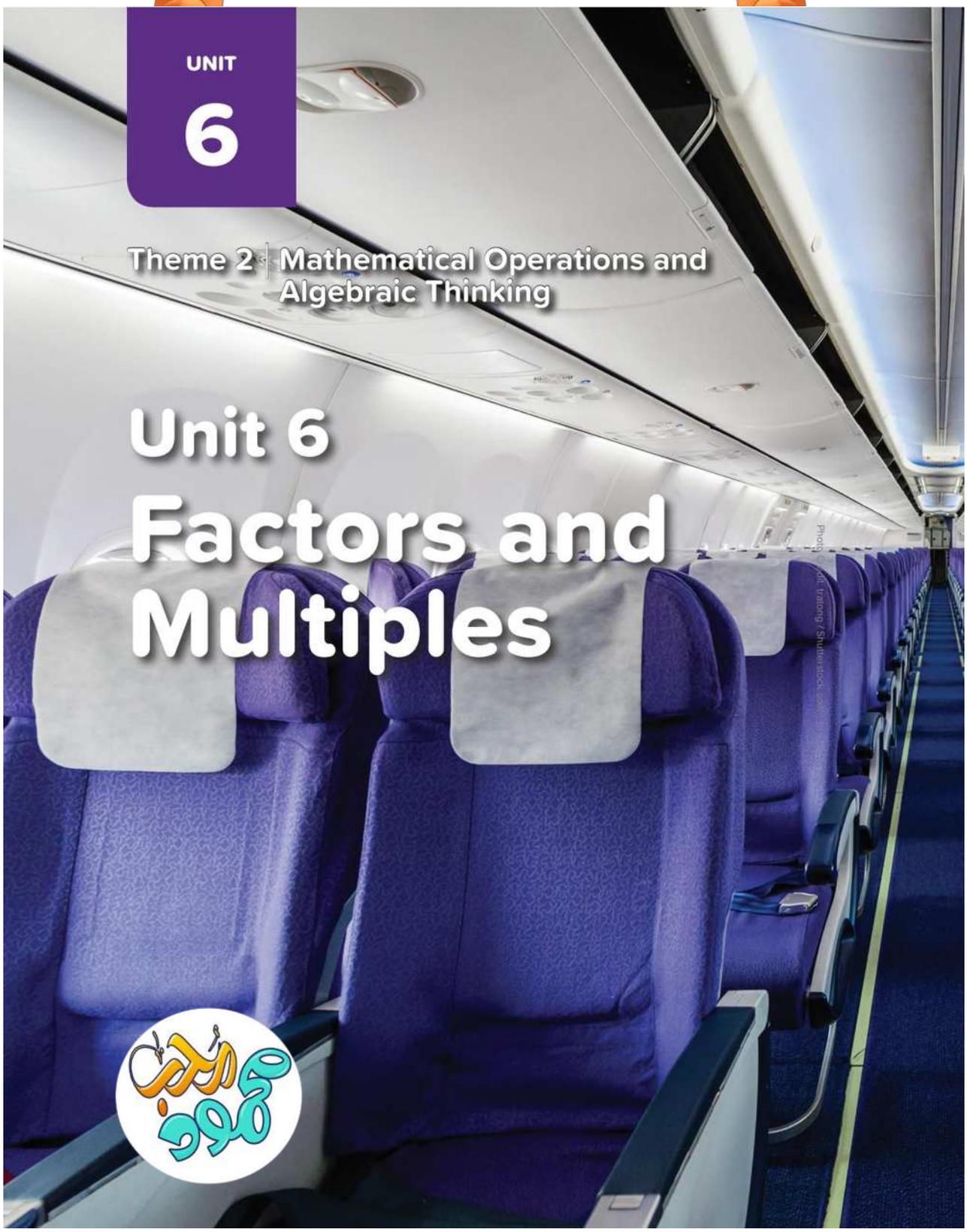

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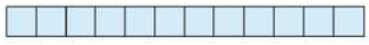
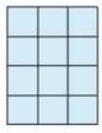
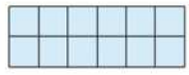
Concept (1): Understanding Factors

Lesson (1) Identifying Factors of Whole Numbers

1. Use the arrays to name the factors of 12.







_____ × _____ = 12 _____ × _____ = 12 _____ × _____ = 12

The factors of 12 are 1, _____, 3, _____, 6, and _____.

1. Find the factors of 15 and create a factor rainbow and factor T-chart.

2. Choose the correct answer.

a. 5 is a factor of ————

A. 50 B. 51 C. 52 D. 53

b. Which number is a factor of 20 ?

A. 6 B. 10 C. 30 D. 40

c. The number 11 has ———— factors.

A. 2 B. 3 C. 4 D. 5

d. The number 32 has ———— factors.

A. 4 B. 6 C. 8 D. 10

e. Which is the factor of every number ?

A. 0 B. 1 C. 2 D. 10

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Count by 2s. Shade the numbers that you say as you count.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Count by 5s. Shade the numbers that you say as you count.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Count by 10s. Shade the numbers that you say as you count.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Finding Factor Pairs Work with your teacher to create a factor rainbow and T-chart for 40.

1. List the factors of 40.

Factor Rainbow **T-Chart**

2. List the factors of 36. There are 5 factor pairs.

Factor Rainbow **T-Chart**

3. List the factors of 20. There are 3 factor pairs.

Factor Rainbow **T-Chart**

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Lesson (2) Prime and Composite Numbers

- The prime number is a whole number that has only 2 factors.
- The prime number is divisible only by 1 and itself.
- 2 is the smallest prime number.
- 3 is the smallest odd prime number.
- 2 is the only even prime number.
- All prime numbers are odd except 2

Prime Numbers less than 100:

2	3	5	7
11	13	17	19
23	29		
31	37		
41	43	47	
53	59		
61	67		
71	73	79	
83	89		
97			

Check each of the following numbers if it is a prime or a composite number.

a. 9 b. 13 c. 19

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Lesson (3) Greatest Common Factor (GCF)

A class is going on a field trip. There are 36 girls and 27 boys in the class. Students will be divided into groups of girls and groups of boys. What is the greatest number of groups that can be made so that each group has the same number of children? How many children will be in each group of boys? How many children will be in each group of girls?

.....

.....

Find the common factors and the greatest common factor (G.C.F) of :

a. 4 and 6

Factors of 4 : _____

Factors of 6 : _____

Common factors : _____ GCF : _____

b. 10 and 30

Factors of 10 : _____

Factors of 30 : _____

Common factors : _____ GCF : _____

c. 12 and 18 [Giza 24] [Sharkia 22]

Factors of 12 : _____

Factors of 18 : _____

Common factors : _____ GCF : _____

Sylvia has 21 pencils and 14 erasers. She wants to put them in groups. What is the greatest number of groups that can be made so that each group has the same number of items ? How many pencils will be in each group ? How many erasers will be in each group ?

_____

_____

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Homework

Choose the correct answer.

a. _____ is a prime number.
A. 9 B. 16 C. 19 D. 21

b. ___ ___ is a prime number.
A. 1 B. 6 C. 7 D. 12

c. _____ isn't a prime number.
A. 1 B. 3 C. 5 D. 7

d. _____ is a composite number.
A. 1 B. 3 C. 13 D. 15

e. _____ isn't a composite number.
A. 11 B. 12 C. 14 D. 20

f. The smallest prime number is _____
A. 0 B. 1 C. 2 D. 3

g. The smallest odd prime number is _____
A. 0 B. 1 C. 2 D. 3

h. The prime number between 44 and 50 is _____
A. 45 B. 46 C. 47 D. 49

Find all the factors of the following and create a factor rainbow and a factor T-chart.

a. 20. There are 3 factor pairs.

Factors are : _____

_____

_____

Factor rainbow | Factor T-chart

b. 40. There are 4 factor pairs.

Factors are : _____

_____

_____

Factor rainbow | Factor T-chart

c. 36. There are 5 factor pairs.

Factors are : _____

_____

_____

Factor rainbow | Factor T-chart

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Complete with "Prime" or "Composite".

a. 2 is _____ | b. 4 is _____ | c. 29 is _____ | d. 3 is _____

e. 5 is _____ | f. 6 is _____ | g. 7 is _____ | h. 11 is _____

Find all the common factors and G.C.F of each pair.

a. 9 and 12

b. 25 and 15

There are 40 girls and 32 boys who want to participate in lap on teams. If each team must have the same number of girls and the same number of boys, what is the greatest number of teams that can participate ? How many girls will be in each team ? How many boys will be in each team ?

Choose the correct answer.

1. The common factor of all numbers is _____

A. 3 B. 2

C. 1 D. 0

2. Which of the following are the common factors of 4 and 6 ?

A. 1 and 2 B. 1 and 3

C. 2 and 3 D. 3 and 4

3. Which of the following are the common factors of 15 and 25 ?

A. 1 and 3 B. 1 and 5

C. 1 and 15 D. 1 and 25

4. 1 and 7 are the common factors of _____

A. 2 and 7 B. 2 and 14

C. 7 and 12 D. 7 and 14

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Concept (2): Understanding Multiples

Lesson (4) Identifying Multiples of Whole Numbers

The product of two numbers is a multiple of each number. Factors and multiples are related.

$$3 \times 4 = 12$$

↑ factor, ↑ factor, ↑ multiple of 3, multiple of 4

Find the multiples of.

a. 4

b. 10

Solution

a. $4 \times 0 = 0$
$4 \times 1 = 4$
$4 \times 2 = 8$
$4 \times 3 = 12$
and so on.

Then :
The multiples of 4 are :
0 , 4 , 8 , 12 , ... and so on.

b. $10 \times 0 = 0$
$10 \times 1 = 10$
$10 \times 2 = 20$
$10 \times 3 = 30$
and so on.

Then :
The multiples of 10 are :
0 , 10 , 20 , 30 , ... and so on.

a. List 4 multiples of 8.

_____ _____

b. Circle the numbers that are multiples of 3.

12 , 17 , 6 , 22 , 18 , 27

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Lesson (5) Common Multiples

Find the multiples of each of 7 and 3 up to 50, then find the common multiples between them.

Solution

The multiples of 7 are _____

The multiples of 3 are _____

The common multiples are _____

a. Circle the numbers that are multiples of 6.

7 , 16 , 12 , 6 , 21 , 24 , 18

b. Circle the numbers that are multiples of 3.

6 , 17 , 21 , 15 , 10 , 36 , 29

Find the missing multiple.

a. 5 , 10 , 15 ,	b. 8 , 16 , 24 ,	c. 10 , 20 , , 40
d. 70 , 80 , , 100	e. 12 , 15 , , 21	f. 22 , , 44 , 55

Lesson (6) Relationships between Factors and Multiples

Think about the relationships between the numbers in each group.
Write at least two sentences describing what you notice.

1. 3, 6, and 12

2. 4, 8, 16, and 24

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Homework

Choose the correct answer:

1	Number of factors of 3 is			
	A) 2	B) 3	C) 4	D) 5
2	Number of factors of 8 is			
	A) 2	B) 3	C) 4	D) 5
3	Number of factors of 9 is			
	A) 2	B) 3	C) 4	D) 5
4	The number 12 has ..... factors			
	A) 3	B) 4	C) 5	D) 6
5	3 is a factor of			
	A) 35	B) 20	C) 27	D) 31
6	3 is a factor of			
	A) 18	B) 20	C) 25	D) 31
7	..... is a factor of 6			
	A) 2	B) 5	C) 7	D) 9
8	..... is a factor of 12			
	A) 5	B) 3	C) 9	D) 10
9	The number that is divisible by 2 is called			
	A) Odd	B) Even	C) Prime	D) Otherwise
10	The number that has only two factors is			
	A) 2	B) 10	C) 6	D) 9
11	The smallest even prime number is			
	A) 0	B) 1	C) 2	D) 3
12	..... Is a prime number.			
	A) 4	B) 6	C) 8	D) 7

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13	..... Is a prime number. A) 11 B) 6 C) 8 D) 10
14	From the prime numbers ..... A) 31 B) 10 C) 12 D) 16
15	.....Is a prime factor of 10 A) 1 B) 6 C) 5 D) 10
16	..... Is a prime number between 30 and 40 is A) 33 B) 35 C) 37 D) 39
17	..... Is a prime number between 32 and 40 is A) 33 B) 35 C) 37 D) 39
19	Number of factors of 4 is ..... A) 2 B) 3 C) 4 D) 5
20	Number of factors of 11 is ..... A) 2 B) 3 C) 4 D) 5
21	The number 18 has ..... factors A) 3 B) 4 C) 5 D) 6
22	5 is a factor of ..... A) 25 B) 8 C) 16 D) 24
23	..... is a factor of 6 A) 10 B) 1 C) 7 D) 9
24	..... is a factor of 12 A) 5 B) 7 C) 4 D) 10
25	The number that has only two factors is ..... A) 12 B) 7 C) 6 D) 9
26	The only even prime number is ..... A) 0 B) 1 C) 2 D) 3

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Unit (6) Assessment

[1] Choose the correct answer:

(1) 17 has ..... factor(s).

a 1 b 2 c 3 d 4

(2) ..... is a multiple of 9.

a 4 b 36 c 16 d 6

(3) The smallest odd prime number is .....

a 0 b 1 c 2 d 3

(4) The common multiple of all numbers is .....

a 0 b 1 c 2 d 3

(5) The common factor of all numbers is .....

a 0 b 1 c 2 d 3

(6) ..... is a composite number.

a 5 b 2 c 3 d 4

(7) The GCF of the two numbers 18 and 24 is .....

a 2 b 1 c 6 d 72

[2] Complete:

(1) The smallest prime number is .....

(2) The prime number that just after 7 is .....

(3) ..... is a multiple of 3, since 3 × ..... = 12.

(4) The factors of 8 are: ....., ..., ..., ...

(5) ..... is a common multiple of the two numbers 2 and 8.

[3] Find:

(1) Find the GCF of the two numbers: 12 and 18.

.....

(2) Find 4 common multiples of the two numbers 2 and 4.

.....

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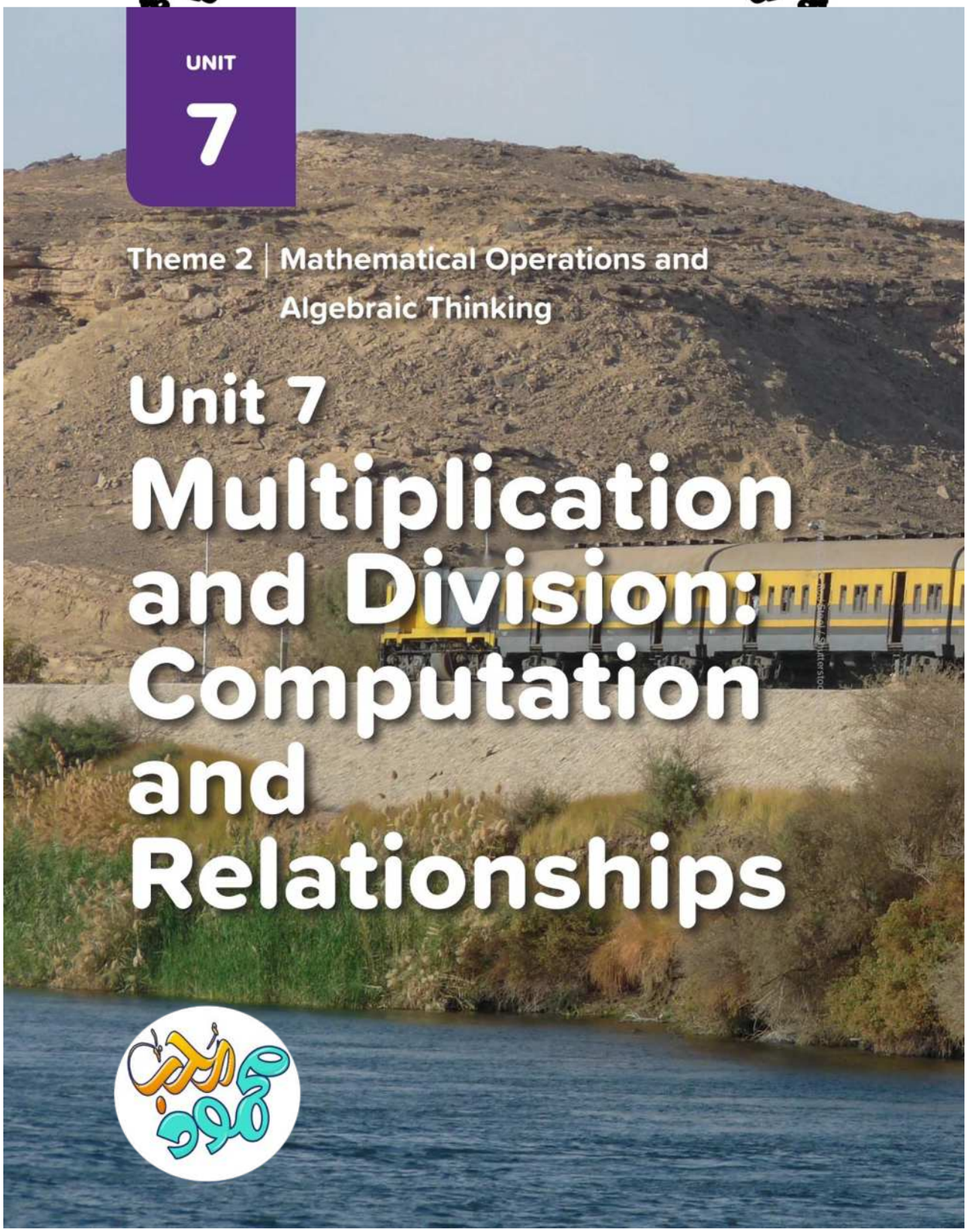

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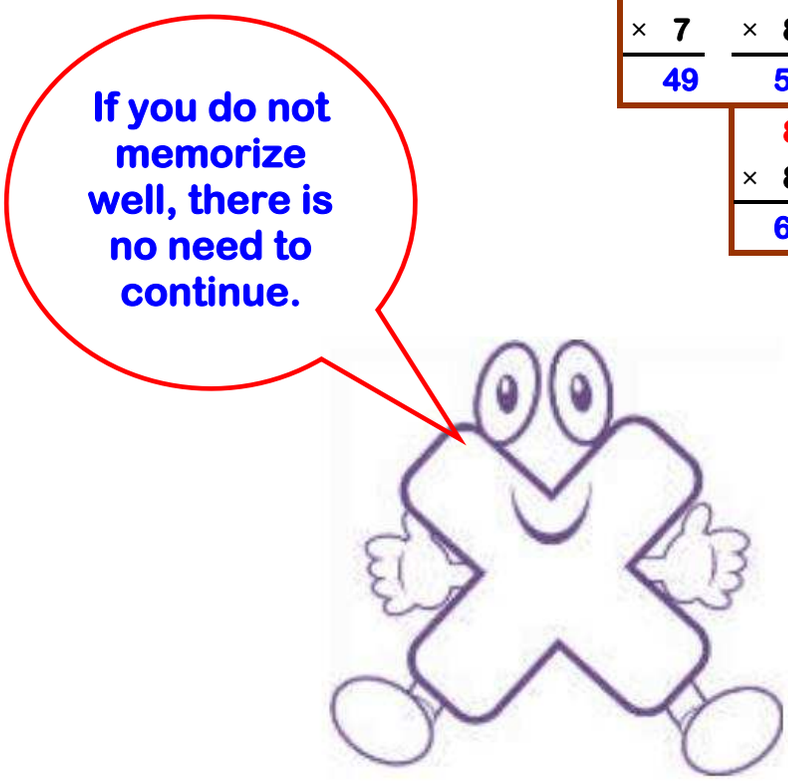
1 × 1 = 1	1 × 2 = 2	1 × 3 = 3	1 × 4 = 4	1 × 5 = 5	1 × 6 = 6	1 × 7 = 7	1 × 8 = 8	1 × 9 = 9	1 × 10 = 10	1 × 11 = 11	1 × 12 = 12
	2 × 2 = 4	2 × 3 = 6	2 × 4 = 8	2 × 5 = 10	2 × 6 = 12	2 × 7 = 14	2 × 8 = 16	2 × 9 = 18	2 × 10 = 20	2 × 11 = 22	2 × 12 = 24
		3 × 3 = 9	3 × 4 = 12	3 × 5 = 15	3 × 6 = 18	3 × 7 = 21	3 × 8 = 24	3 × 9 = 27	3 × 10 = 30	3 × 11 = 33	3 × 12 = 36
			4 × 4 = 16	4 × 5 = 20	4 × 6 = 24	4 × 7 = 28	4 × 8 = 32	4 × 9 = 36	4 × 10 = 40	4 × 11 = 44	4 × 12 = 48
				5 × 5 = 25	5 × 6 = 30	5 × 7 = 35	5 × 8 = 40	5 × 9 = 45	5 × 10 = 50	5 × 11 = 55	5 × 12 = 60
					6 × 6 = 36	6 × 7 = 42	6 × 8 = 48	6 × 9 = 54	6 × 10 = 60	6 × 11 = 66	6 × 12 = 72
						7 × 7 = 49	7 × 8 = 56	7 × 9 = 63	7 × 10 = 70	7 × 11 = 77	7 × 12 = 84
							8 × 8 = 64	8 × 9 = 72	8 × 10 = 80	8 × 11 = 88	8 × 12 = 96
								9 × 9 = 81	9 × 10 = 90	9 × 11 = 99	9 × 12 = 108
									10 × 10 = 100	10 × 11 = 110	10 × 12 = 120
										11 × 11 = 121	11 × 12 = 132
											12 × 12 = 144



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1 × 1	1 × 2	1 × 3	1 × 4	1 × 5	1 × 6	1 × 7	1 × 8	1 × 9	1 × 10	1 × 11	1 × 12
2 × 2	2 × 3	2 × 4	2 × 5	2 × 6	2 × 7	2 × 8	2 × 9	2 × 10	2 × 11	2 × 12	
3 × 3	3 × 4	3 × 5	3 × 6	3 × 7	3 × 8	3 × 9	3 × 10	3 × 11	3 × 12		
4 × 4	4 × 5	4 × 6	4 × 7	4 × 8	4 × 9	4 × 10	4 × 11	4 × 12			
5 × 5	5 × 6	5 × 7	5 × 8	5 × 9	5 × 10	5 × 11	5 × 12				
6 × 6	6 × 7	6 × 8	6 × 9	6 × 10	6 × 11	6 × 12					
7 × 7	7 × 8	7 × 9	7 × 10	7 × 11	7 × 12						
8 × 8	8 × 9	8 × 10	8 × 11	8 × 12							
9 × 9	9 × 10	9 × 11	9 × 12								
10 × 10	10 × 11	10 × 12									
11 × 11	11 × 12										
12 × 12											

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Concept (1)
Multiplying by 1-Digit and 2-Digit Factors

Lesson (1) The Area Model Strategy

Decomposing Numbers Fill in the missing number for each decomposition.

1. 536 = 500 + _____ + 6
2. 1,275 = _____ + 200 + 70 + 5
3. 264 = 60 + 4 + _____
4. 7,625 = 5 + 7,000 + 20 + _____
5. 357 = 50 + _____ + 7

River Boat on the Nile

Twenty-two passengers can fit on each river bus at a time. What is the maximum number of passengers the river bus can carry if it makes 5 trips?

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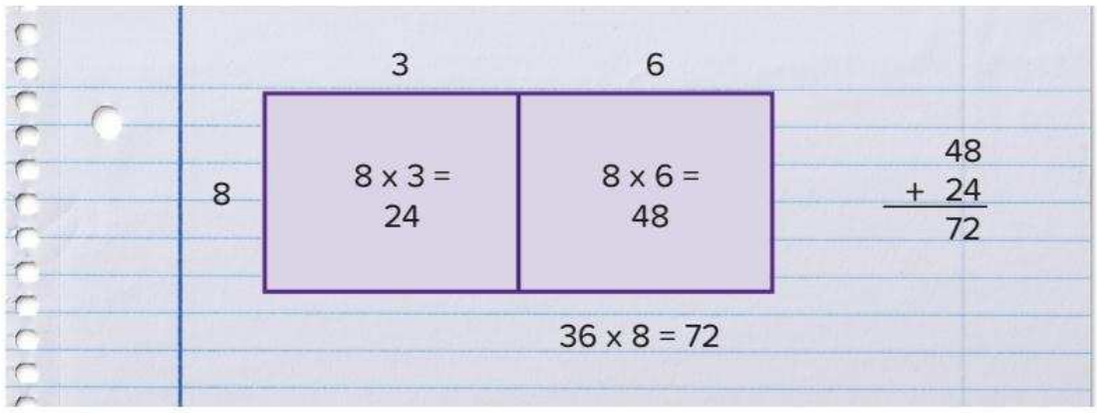
A student solved the problem 36 x 8 in the following way:



Is that true? Why?

Lesson (2) The Distributive Property

The Distributive Property and Area Models Use the area model to solve each problem.

1. 249 x 5

2. 4,734 x 5

3. 530 x 7

4. 2,391 x 8

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Lesson (3) The Partial Products Algorithm

Example:

$$\begin{array}{r} 731 \\ \times \quad 4 \\ \hline 2{,}800\ (700 \times 4) \\ 120\ (30 \times 4) \\ +\quad 4\ (1 \times 4) \\ \hline 2{,}924 \end{array}$$

$$\begin{array}{r} 239 \\ \times \quad 7 \\ \hline 1{,}400\ (7 \times 200) \\ 210\ (7 \times 30) \\ +\ 63\ (7 \times 9) \\ \hline 1{,}673 \end{array}$$

Problem	Partial Products
7 x 59	
624 x 4	
6 x 3,293	

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	6,421	
x	6	
	36,000	(_____ x _____)
	_____	(6 x 400)
	120	(6 x _____)
+	_____	(6 x 1)
	_____	

Solve using the partial products algorithm.

1. 4,731 x 4 =

2. 29 x 4 =

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Lesson (4) Multiply by a 1-Digit Number

Similarities in Models Estimate the products of the two problems. Then, solve using the method assigned by your teacher.

1. 64 x 7

   Estimate:

   Solved Answer:

2. 132 x 8

   Estimate:

   Solved Answer:

3. 32
   x 3

   Estimate:
   30 x 3 = 90

   Answer:
   32 x 3 = 96

4. 17
   x 6

   Estimate:
   20 x 6 = 120

   Answer:
   17 x 6 = 102

5. 134
   x 2

   Estimate:

   Answer:

6. 758
   x 3

   Estimate:

   Answer:

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Lesson (5) Multiply a 2-Digit Number by a Multiple of 10

[1] Find the Result:

1. $20 \times 30 =$ ..... 2. $60 \times 90 =$ ..... 3. $80 \times 40 =$ .....

4. $20 \times 90 =$ ..... 5. $40 \times 70 =$ ..... 6. $50 \times 20 =$ .....

7. $40 \times 50 =$ ..... 8. $40 \times 90 =$ ..... 9. $30 \times 90 =$ .....

10. $26 \times 40 =$ ..... 11. $70 \times 55 =$ ..... 12. $40 \times 78 =$ .....

[2] Hazem bought 20 books of 60 pounds each. What is the total cost of all books?

.....

[3] A primary school has 50 classes, each class has 45 pupils. What is the total number of pupils in this school?

.....

[4] 23 passengers will travel by bus, each ticket cost 30 pounds. How much money will they pay in all?

.....

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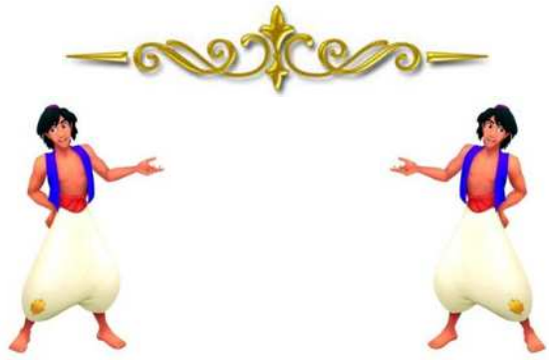
Homework

Use numbers and symbols to solve each problem.

	Problem	Numbers and Symbols
1.	32 x 7	
2.	5 x 483	
3.	7 x 723	
4.	1,673 x 8	



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2,523
x 5
10,000 (_____ x _____)
_____ (5 x 500)
100 (5 x _____)
+ _____ (5 x 3)
_____

3. 5 x 343 =

7. 1,349
x 2
Estimate:

Answer:

8. 2,327
x 4
Estimate:

Answer:

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196 × 7 = ...	669 × 4 = ...	633 × 3 = ...	923 × 9 = ...	177 × 8 = ...
484 × 3 = ...	404 × 8 = ...	605 × 8 = ...	866 × 5 = ...	561 × 3 = ...
456 × 5 = ...	339 × 2 = ...	847 × 7 = ...	491 × 6 = ...	953 × 8 = ...

9,547 × 8 = ...	5,555 × 8 = ...	5,366 × 5 = ...	1,926 × 4 = ...	5,940 × 2 = ...
1,794 × 7 = ...	8,431 × 4 = ...	9,266 × 6 = ...	1,497 × 5 = ...	5,980 × 2 = ...
9,300 × 2 = ...	3,298 × 8 = ...	5,967 × 6 = ...	9,365 × 2 = ...	4,666 × 9 = ...

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Concept (2): Dividing by 1-Digit Divisors

Lesson (6) Exploring Remainders

Learning Targets

- I can identify the **dividend**, **divisor**, and **quotient** of a division problem.
- I can solve division problems.
- I can explain what a **remainder** represents in a division problem.

Division Patterns Label the parts in the equation using the words divisor, dividend, and quotient. Then, look for patterns to complete the remaining problems. The first problem in the table is an example that is filled in for you.

600 ÷ 3 = Answer

600 is called the _____.

3 is called the _____.

The answer is called the _____.

Find each quotient and remainder. Complete the following.

a. 11 ÷ 3 = ☐ R ☐

b. 7 ÷ 2 = ☐ R ☐

c. 26 ÷ 4 = ☐ R ☐

d. 51 ÷ 8 = ☐ R ☐

e. 20 ÷ 9 = ☐ R ☐

f. 12 ÷ 5 = ☐ R ☐

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Put the suitable sign (<), (>) or (=):

350 ÷ 7	.....	450 ÷ 5
2,000 ÷ 5	.....	4,000 ÷ 5
400 ÷ 4	.....	1,000 ÷ 2
30,000 ÷ 6	.....	20,000 ÷ 4
24,000 ÷ 8	.....	20,000 ÷ 5

Lesson (7) Patterns in Division

Equation	Related Fact	Quotient
600 ÷ 3	6 ÷ 3 = 2	200
150 ÷ 5		
1,200 ÷ 6		
200 ÷ 4		
700 ÷ 7		
6,400 ÷ 8		
4,500 ÷ 9		
270 ÷ 3		

Lesson (8) The Area Model and Division

Use the area to model the following problem.

535 ÷ 5

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Use the area model to solve each of the following:

a. $64 \div 2$

b. $85 \div 4$

c. $217 \div 5$

d. $159 \div 3$

Lesson (9) The Partial Quotients Algorithm

Example 1

Divide.

a. $78 \div 6$

b. $658 \div 3$

c. $8{,}785 \div 7$

Solution

a.
$$\begin{array}{r|l} 78 & 10 \\ -\ 60 & \\ \hline 18 & 3 \\ -\ 18 & \\ \hline 0 & \end{array}$$

$78 \div 6 = 10 + 3 = 13$

b.
$$\begin{array}{r|l} 658 & 200 \\ -\ 600 & \\ \hline 58 & 10 \\ -\ 30 & \\ \hline 28 & 9 \\ -\ 27 & \\ \hline 1 & \end{array}$$

$658 \div 3 = 200 + 10 + 9 = 219$

and the remainder $= 1$

c.
$$\begin{array}{r|l} 8,785 & 1{,}000 \\ -\ 7,000 & \\ \hline 1,785 & 200 \\ -\ 1,400 & \\ \hline 385 & 50 \\ -\ 350 & \\ \hline 35 & 5 \\ -\ 35 & \\ \hline 0 & \end{array}$$

$8{,}785 \div 7$

$= 1{,}000 + 200 + 50 + 5 = 1{,}255$

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Use the partial quotient algorithm to divide.

a. $52 \div 3$

b. $783 \div 5$

c. $7{,}320 \div 6$

In the opposite division,
the quotient is: 224
and the remainder is: 4

4 | 897		200
− 800		
97		10
− 40		
57		10
− 40		
17		4
− 16		
1		

( )

From the opposite division, the quotient = ...

- (a) 137 R7
- (b) 137 R1
- (c) 223 R6
- (d) 223 R1

6 | 823		100
− 600		
223		30
− 180		
43		7
− 42		
1		

The equation which represents the opposite figure is .....

- (a) $85 \div 5 = 107$
- (b) $85 \div 17 = 5$
- (c) $85 \div 5 = 17$
- (d) $17 \div 5 = 85$

5 | 85		10
− 50		
35		7
− 35		
00		

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Lesson (10) The Standard Division Algorithm

454 ÷ 3 =

778 ÷ 2 =

368 ÷ 3 =

4,858 ÷ 4 =

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$240 \div 6 =$

$1,500 \div 5 =$

$414 \div 4 =$

$761 \div 6 =$

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Lesson (11) Division and Multiplication

Example 1

Write the division problem that matches the multiplication problem.

a.
$$\begin{array}{r} 34 \\ \times\ 2 \\ \hline 8 \\ +60 \\ \hline 68 \end{array}$$

b.
$$\begin{array}{r} 518 \\ \times\ 3 \\ \hline 24 \\ +\ 30 \\ +1{,}500 \\ \hline 1{,}554 \end{array}$$

c.
$$\begin{array}{r} 908 \\ \times\ 7 \\ \hline 56 \\ +\ 0 \\ +6{,}300 \\ \hline 6{,}356 \end{array}$$

Solution

a. $68 \div 2 = 34$ b. $1{,}554 \div 3 = 518$ c. $6{,}356 \div 7 = 908$

Write the division problem that matches the multiplication problem.

$$\begin{array}{r} 27 \\ \times\ 6 \\ \hline 42 \\ +120 \\ \hline 162 \end{array}$$

$\square \div \square = \square$

Write the division problem that matches the multiplication problem.

a. $53 \times 6 = 318$

$\square \div \square = \square$

b. $623 \times 3 = 1{,}869$

$\square \div \square = \square$

c. $325 \times 4 = 1{,}300$

$\square \div \square = \square$

d. $505 \times 5 = 2{,}525$

$\square \div \square = \square$

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Homework

Use basic facts and place value to find the quotient.

6. $560 \div 8 =$ _____
7. $200 \div 5 =$ _____
8. $240 \div 4 =$ _____
9. $810 \div 9 =$ _____
10. $6{,}400 \div 8 =$ _____
11. $3{,}500 \div 7 =$ _____
12. $5{,}000 \div 5 =$ _____
13. $9{,}000 \div 3 =$ _____
14. $3{,}000 \div 5 =$ _____

Write the division problem that matches the multiplication problem.

a.

$$\begin{array}{r} 48 \\ \times \quad 6 \\ \hline 48 \\ +240 \\ \hline 288 \end{array}$$

$\square \div \square = \square$

b.

$$\begin{array}{r} 75 \\ \times \quad 4 \\ \hline 20 \\ +280 \\ \hline 300 \end{array}$$

$\square \div \square = \square$

c.

$$\begin{array}{r} 162 \\ \times \quad 8 \\ \hline 16 \\ +480 \\ +800 \\ \hline 1{,}296 \end{array}$$

$\square \div \square = \square$

d.

$$\begin{array}{r} 615 \\ \times \quad 9 \\ \hline 45 \\ +90 \\ +5{,}400 \\ \hline 5{,}535 \end{array}$$

$\square \div \square = \square$

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$27 \div 5 =$

$156 \div 4 =$

$2,704 \div 3 =$

$583 \div 6 =$

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198 ÷ 9 =

259 ÷ 7 =

564 ÷ 8 =

738 ÷ 6 =

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Unit (7) Assessment

[1] Choose the correct answer:

(1) 4 × (2 × 6) = (4 × 2) × 6 represents ..... property

a commutative b associative c identity d distribution

(2) 6 + 6 + 6 + 6 = ...

a 6 × 4 b 6 + 4 c 6 ÷ 4 d 6 – 4

(3) 24 ÷ 3 = ...

a 8 b 6R2 c 7R1 d 9

(4) If: 137 ÷ 8 = 17R1, then the divisor is .....

a 137 b 8 c 17 d 1

(5) Which of the following represents 6 × 35? .....

a (6 × 50) + (6 × 3) c (6 × 30) + (6 × 5)

b (6 × 50) + (6 × 30) d (6 × 5) + (6 × 3)

[2] Complete:

(1) If 36 ÷ 7 = 5 R1, then the dividend is ....., the quotient is ....., the divisor is ....., and the remainder is .....

(2) 1,600 ÷ 4 = ...

(3) 327 × 3 = ...

(4) 40 × 5 = ...

(5) Using the opposite area model, the quotient is .....

5	5×100 = 500	5 × 9 = 45
	100	9

[3] Find:

(1) A father wants to distribute 420 pounds among his five sons equally. What is the share of each son? .....

(2) Yahia distributed 21 bottles equally on 3 tables. How many bottles are there on each table? .....

(3) Using any strategy find: 5 × 249.

(4) Using the standard algorithm of division, find 1,022 ÷7.

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UNIT
8

Theme 2 | Mathematical Operations and Algebraic Thinking

Unit 8
Order of Operations

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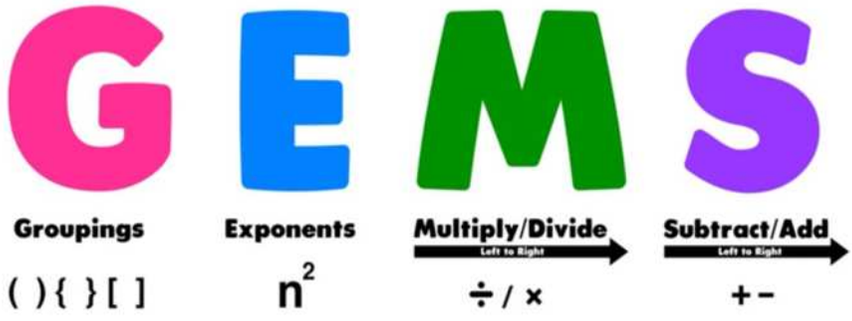
Lesson (1) Order of Operations

Parentheses

Multiplication and Division (left-to-right)

Addition and Subtraction (left-to-right)

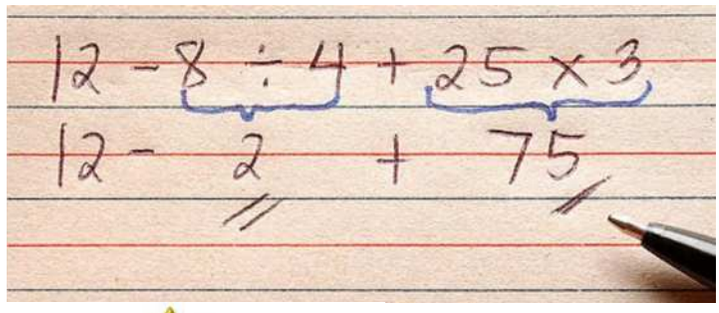


$4 + 10 \div 2$

$4 + 5$

$4 + 5$

9



Use the order of operations to find the value of each expression.

a. $1 + 6 \times 7$

b. $(16 + 4) \div 2$

c. $2 \times 5 - 8 \div 4$

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$8 \times 5 + 7 =$.....

=.....

$4 \times 8 - 5 =$.....

=.....

$7 + 2 \times 9 =$.....

=.....

$12 - 3 \times 3 =$.....

=.....

$7 + 8 \div 2 =$.....

=.....

$48 \div 8 + 5 =$.....

=.....

$36 \div 9 - 3 =$.....

=.....

$12 - 10 \div 2 =$.....

=.....

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Lesson (2) The Order of Operations and Story Problems

Ashraf has to take the bus to work. It takes 27 minutes to get to the bus stop near his job. Then, he has to walk for 12 minutes from the bus stop to his place of work.
How many minutes does Ashraf spend going to work during a 5-day week ?

A group of tourists are taking a tour of Alexandria. There are 172 tourists and 8 tour guides in the group. They want to travel to the pyramids in microbuses. Each microbus fits 9 people. How many microbuses will they need in order to get everyone to the pyramids ?

Bilal buys 6 packages of balloons. Each package contains 18 balloons. He wants to give the balloons to his friends at his birthday party. If he has 8 friends at the party, how many balloons can each friend take home ?.

Sita wants to bake berry muffins. Each muffin will have 6 berries in it. She buys 198 berries from the store. On the way home, she eats 17 of the berries. How many muffins can she make with the berries she has left ?

Noha bought three books for 20 L.E. each. If she had 100 L.E., how much money was left with Noha ?

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Homework

$(4\times11)-6=$.....	$4\times(5+3)=$.....	$4\times3+10=$.....
$6\times(3+5)=$.....	$5+(3\times7)=$.....	$(4\times11)-5=$.....
$3\times4-11=$.....	$(7\times3)+8=$.....	$6+(8\times10)=$.....
$(8+5)\times4=$.....	$(5\times11)-10=$.....	$2+4\times8=$.....
$(4\times2)-7=$.....	$4\div(11-9)=$.....	$(4\times3)-6=$.....
$2\times9-5=$.....	$10-(6\div2)=$.....	$(11+8)\times3=$.....
$(7+9)\div4=$.....	$3\times4+9=$.....	$3\times(9-2)=$.....
$11\times7+5=$.....	$(6\div3)+7=$.....	$5+6\div3=$.....
$(4+8)\div3=$.....	$(5+9)\times2=$.....	$(2\times9)-10=$.....
$(8\times10)+2=$.....	$7-(6\div2)=$.....	$(8\times7)-4=$.....
$11+7\times2=$.....	$5\times7-6=$.....	$(9-8)\times10=$.....
$(11\times4)-3=$.....	$2+(3\times8)=$.....	$(11+9)\times4=$.....
$(9+11)\div2=$.....	$(9\times11)-10=$.....	$6+9\div3=$.....
$(11-6)\times4=$.....	$(6\div3)+4=$.....	$2\times4+8=$.....
$(8-7)\times2=$.....	$6+5\times4=$.....	$8\div(9-7)=$.....
$3+(9\times8)=$.....	$2\times(9-8)=$.....	$9-(4\div2)=$.....
$5\times(6+4)=$.....	$6+(3\times11)=$.....	$(4\times5)+11=$.....

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Unit (8) Assessment

[1] Choose the correct answer:

(1) $6 + 6 - 3 \times 2 =$ .....

a 12 b 5 c 6 d 7

(2) Which of the following = 6

a $24 + 6 - 2$ b $12 + 6 \div 3$ c $18 - 4 \times 3$ d $3 \times 1 + 1$

(3) $30 - 4 \times (2 + 1) =$ .....

a 102 b 28 c 18 d 78

[2] Complete:

(1) $99 - 9 \times 10 + 7 =$ .....

(2) $5 \times 2 + 4 =$ .....

(3) $300 \div (30 - 20) =$ .....

[3] Using the order of operations, find:

(1) $100 - (4 + 7) \times 9$

.....

.....

.....

(2) $20 \div 4 - 3$

.....

.....

.....

Complete the following.

1. $14 \div 7 + 20 =$ _____
2. $[3 + 3] \times 4 - 1 =$ _____
3. $100 - [4 + 7] \times 9 =$ _____
4. $32 \div 4 - 6 =$ _____
5. $40 \div 8 - 3 =$ _____

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Exercises on Division

975 ÷ 3 =

541 ÷ 4 =

703 ÷ 3 =

115 ÷ 5 =

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$250 \div 2 =$

$373 \div 3 =$

$265 \div 5 =$

$254 \div 4 =$

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$228 \div 5 =$

$216 \div 6 =$

$432 \div 8 =$

$441 \div 7 =$

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$212 \div 5 =$

$212 \div 4 =$

$1536 \div 3 =$

$1926 \div 6 =$

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$3078 \div 9 =$

$434 \div 8 =$

$436 \div 7 =$

$1608 \div 4 =$

BEST WISHES

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Dr.MoRizK